YACHTING

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A WELL-DESIGNED HULL WITH PLEASING PROPORTIONS AND A SENSIBLE BALANCE BETWEEN DECK AND CABIN ROOM

How to Buy Intelligently

This is the third of a series of articles in YACHTING uncovering certain unsatisfactory business methods that exist and the abuse of advertising privileges by irresponsible builders. This particular instalment deals with a way of mitigating such conditions by reason of a better understanding of the objectionable methods and a knowledge of what is good and what is bad practice in boat and engine building.

By HERBERT L. STONE

IN the last two issues of YACHTING we have told of certain unsatisfactory conditions that exist in the building and selling of both boats and engines, coupled with some reprehensible advertising methods that constitute a serious danger to the power boatman, to the sport at large, and to the welfare of those manufacturers who, by patient effort and integrity, have been responsible for bringing the internal-combustion marine engine and the motor boat to their present high state of efficiency. The last Motor Boat Show proved more than anything else the healthy development of both craft and motor, and the character of the exhibits was of a much higher order than heretofore. There was a wide range of types, power and price that suited practically all requirements of service and purse.

Yet, along with this satisfactory development, a number of unscrupulous persons have taken advantage of conditions, and have threatened to give the sport, as it were, a black eye, by their unsavory business methods, and by mulcting the unwary buyer, especially the man buying his first boat or engine, who doesn't know anything about either, and is, therefore, caught by the lure of a cheap price and a reckless guarantee. Even the mediums to which a purchaser might reasonably look for advice and help in picking out the good from the bad frequently offer him no protection.

That the campaign we have started was needed is amply attested by the many letters that we have received from boat owners, many of whom have been taken in and "stung" with a gold brick that in print looked like the real article. In these letters, of which the following is a sample, they commend the stand YACHTING has taken in the matter:

WELL-DESIGNED FLARE, AS SHOWN HERE, MAKES A BOAT DRY

BOSTON, MASS.

EDITOR YACHTING:

It was with great satisfaction that I read the article in the last YACHTING about "fake" dealers in boats and engines. You are on the right road and I hope you will make a strong and enduring fight against some of their present practices, especially the form of guaranty which does not guarantee anything whatever after the money is once paid.

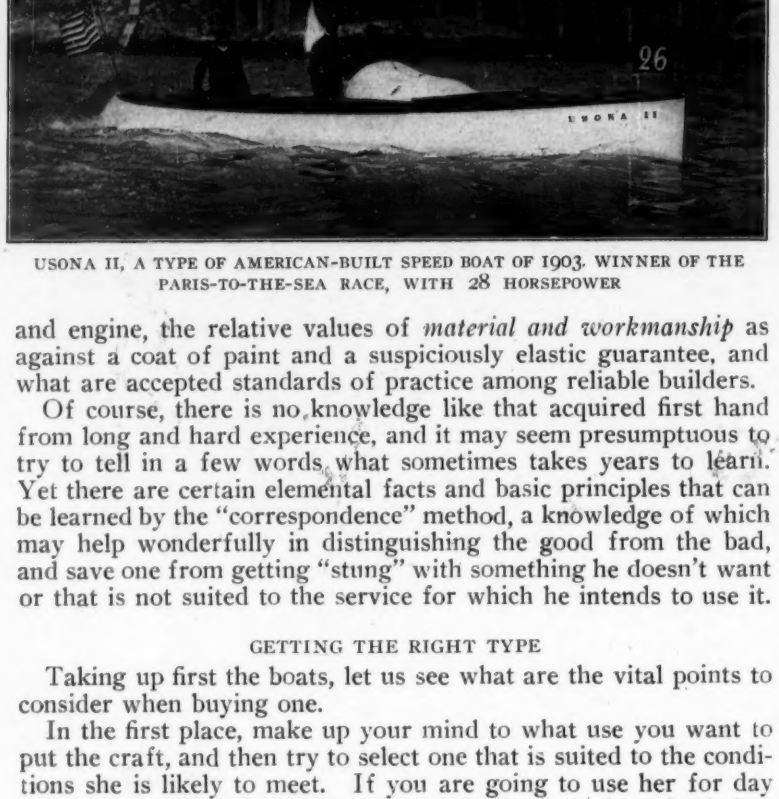
I want the influence of your and other motor-boating papers to be so used that any man who wants to buy and can show ability to pay may have the wares so demonstrated that he will know that he is to get what he pays for, before his good cash gets into unscrupulous hands. * * * *

You probably are having many letters of the same tenor as this, for I have heard approval of your course on all sides. If it were expedient, I could relate a woeful tale of a lovely six-cylinder-engine "lemon" that I became possessed of. Perhaps some day I will.

Sincerely yours, ————

STANDARDS BY WHICH TO JUDGE

Some of these letters make interesting reading, as they shed much light on the methods employed by the unscrupulous to catch the uninitiated, as some of those published in the last issue show. We have not the space to print more of these here. What is more to the point is to try to save the amateur money and annoyance, first, by warning him—as we have already done—of the dangers of buying without proper inquiry into the character and standing of the firm he is dealing with, and the reputation of its product, and then by giving him, as far as it is possible to do on paper, a knowledge of the vital points to look for in design and construction of boat



USONA II, A TYPE OF AMERICAN-BUILT SPEED BOAT OF 1903. WINNER OF THE PARIS-TO-THE-SEA RACE, WITH 28 HORSEPOWER

and engine, the relative values of *material and workmanship* as against a coat of paint and a suspiciously elastic guarantee, and what are accepted standards of practice among reliable builders.

Of course, there is no knowledge like that acquired first hand from long and hard experience, and it may seem presumptuous to try to tell in a few words what sometimes takes years to learn. Yet there are certain elemental facts and basic principles that can be learned by the "correspondence" method, a knowledge of which may help wonderfully in distinguishing the good from the bad, and save one from getting "stung" with something he doesn't want or that is not suited to the service for which he intends to use it.

GETTING THE RIGHT TYPE

Taking up first the boats, let us see what are the vital points to consider when buying one.

In the first place, make up your mind to what use you want to put the craft, and then try to select one that is suited to the conditions she is likely to meet. If you are going to use her for day work only, don't buy the first one you see because the price is low (I am talking of new boats now), but consider the kind of water she is to be used in. If it is exposed or apt to be rough, don't buy a narrow, shallow craft that is only suited for small inland lakes or protected streams, but select a good, husky boat with a beam of about one-fourth of its length, good depth, fair draft, fairly high sides, or freeboard, as it is called, and good sheer. The smaller boats, which are made in large quantities from stock models, are well adapted for smooth-water use, but are not designed for rough waters, and the salesman that knows his business will not try to sell one where he is positive that it is not going to be satisfactory.

Don't forget, either, that a boat looks a good deal larger when seen on a shop floor or in the maker's catalog than when it is out on the water a mile or more from land. Many a man has bought an 18 or 20-footer thinking that he was getting a boat large enough to go around Cape Cod, only to find that she was pretty small when he knocked the crate off.

In most of us the limit of our desire and our pocketbook are usually as far apart as the two poles; and as it is the latter that governs the size of the boat one can afford, make up your mind to be content with what you can get, and then buy as *good* a one, rather than as *large* a one as you can for the money. Remember that the purchasing price of the money you invest in a boat is not as great to-day as it was some years ago. Material, labor and fittings all cost more, and you can't get as *much* boat for a given sum now as before. The way in which the price has been kept down is in building in quantity from stock models, and in standardizing and organizing the shop and buying material in large lots. If you know what you want, you can usually find it in a stock model made by a reputable firm that charges a fair price for the work, and uses good models to build from.

WHAT REPUTATION IS WORTH

In buying a low-priced boat, stick to the plainest of trim and finish, and get the money in the hull, rather than in mahogany cockpit and deck and highly varnished sides. There is, however, absolutely no standard of price to go by. Open boats can be had all the way from $200 to $5,000, and you can get your money's worth at either figure. So many different elements enter into it that one cannot say what a boat of a certain size should cost. Only remember this in buying: High-grade work not only adds to the life of a boat, but the builder's reputation has a tangible value in dollars and cents when it comes to selling after you are through with the boat. A good name plate is an asset.

As an example of what frequently happens when you lose sight of the value of the reputation of the firm you are dealing with, read the following letter from a man who put too much faith in a guarantee with no honesty of purpose back of it. This man bought a small launch from a company that advertised that they were the builders of both boats and engines. After waiting two months for his boat, it came in bad condition, and, upon taking the matter up, he found that the firm from whom he bought was not the builders of the boats, but was having the work done by an outside firm of boat builders.

Here is the letter he got from the boat builder when he tried to get satisfaction.

DEAR SIR: Yours to hand and the contents noted. I am very sorry to hear that the boat has reached you in such a condition. I assure you that anything I can do for you will be done. You will no doubt understand, if you read the guarantee, that the boat must be returned to us and the charges paid both ways, and we will then repair without extra cost. Now I understand that this damage was brought about by the railroad company. Why not put in a claim of damages against them? They are responsible for this damage because the boat was crated in such a manner to prevent it from being damaged, and, as the boats are shipped four times first-class rate, they have to settle for it. It is the careless handling this boat got that caused the damage, for this was one of the best that left the factory, and everything was in it.

It may interest you that I am up against it with the ———— Company myself [the company that sold the boat and engine]. They owe me money, so we are both in the same boat, and it looks as though it's lost money to me because of the delay the railroad made of your shipment.

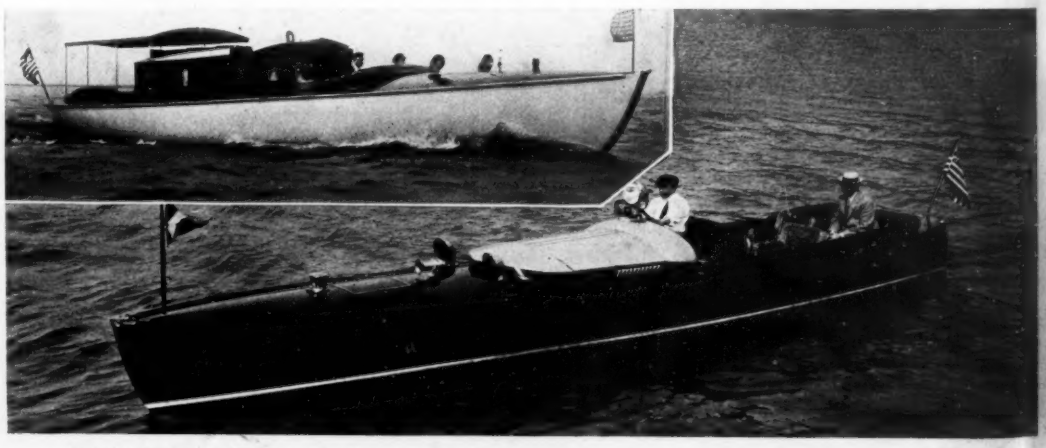
I hope you will appreciate my position and that you will save money by not bringing suit against the ———— Company, as I have learnt from a mercantile agency that they have some nine suits against them now, so, you see, neither one of us stands much of a show. I am writing you simply to put you wise. Hoping you will get my meaning, I beg to remain,

Yours very truly, ————

Can you beat this, when it comes to divided responsibility?

ABOUT CRUISERS

When it comes to cruisers, even less can be said, except in a general way. Most cruising boats, except in the very small sizes,



EXCELLENT EXAMPLES OF DESIGN FOR HIGH-SPEED BOATS FOR DAY USE ON PROTECTED WATERS

DO NOT BUY A LOW, NARROW, SHALLOW BOAT LIKE THIS FOR USE WHERE THE WATER IS APT TO BE ROUGH

THE EFFECT OF TOO MUCH CUTTING DOWN OF DISPLACEMENT. THIS BOAT HAS NOT ENOUGH BEARING AFT TO GIVE STABILITY OR TO PREVENT "SQUATTING"

are usually built to order, even if they are built from a stock model, and each presents its own problems. Boats as small as 30-footers are now usually designed by naval architects, and if a purchaser doesn't inflict too much of his personality into the job he usually gets a satisfactory model.

In choosing the type of boat to buy, be sure to weigh carefully just how you are going to use it. If most of your boating is to be short, day runs, you must allow plenty of cockpit room. Even for summer cruising, good deck and cockpit space should not be sacrificed too ruthlessly for cabin space. You are on deck a good deal more than you are below.

Don't insist on spoiling the looks and weatherly qualities of a small boat to get full headroom by building her up in the air or adding a high, raised deck or cabin house. Do not try to get it, either, by too much crown in the roof. A crown of over 6 or 7 inches in the average 30-footer makes a deck so round that it is unsafe to walk upon it, and is practically useless. Be content with something less than six feet in a little boat to prevent her being top heavy and badly proportioned.

For rough water use do not get a boat that is too fine and sharp forward. She will dive and pitch until she is like a submarine, while a full-bodied boat will be dry and lift over the seas. Flare, if in the right place and not too far forward, will throw the water off, and make a dry boat.

One of the most important things to be taken into consideration in power boat design is the placing of the weights—the engines and tanks. In the days of the old steam launch there was only one place where these would go—in the center. But with the small, lighter gasolene motor it is possible to have more latitude in this direction and to design the accommodation with a view to greater convenience.

In cruisers this can be done also, but to a lesser extent, as in heavy boats the power plant increases greatly in weight and the proper balance and trim of the boat has to be the first consideration. It can be placed forward (if not too heavy) or aft, doing away with the necessity of breaking the accommodations; but if a boat is ever to be used in rough water the proper location for the weights is approximately amidships. It not only gives the boat the proper balance and keeps her from pitching "bows under" in a sea, or squatting, but causes less hull strain than where the balance is preserved by dividing the weights forward and aft.

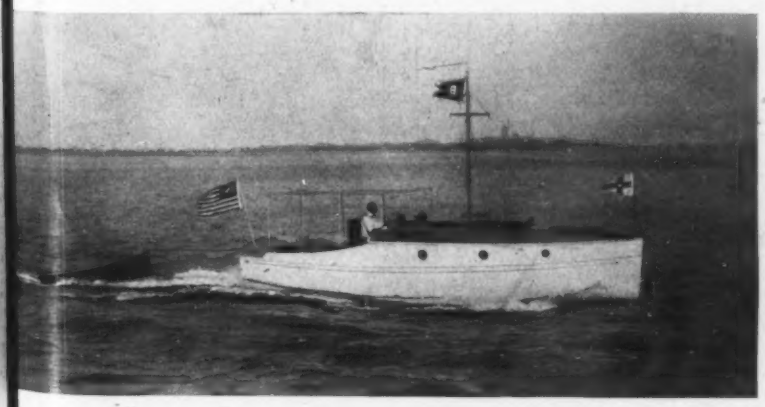
Owners are now usually responsible for boats badly designed in this particular by insisting on a certain cabin layout, to the detriment of proper balance. It is inconsistent and bad practice to go to a designer or builder for a boat and then to insist on certain features that he can give you only at the sacrifice of some essential of good design.

In building any boat, the material that goes into her is, of course, one of the vital things. It is good material that gives a boat life, and, where the material is skimped to save cost, the condition of the boat shows it at the end of two years. I call to mind the case of a firm that bid on a little 30-footer, and did not get the order because the price was a couple of hundred dollars more than someone else's. The boat was built at the cheaper plant, and a year after, when hauled out, she looked like a boat five years old. Her keel was full of sap streaks and checks, the planking was of inferior quality and full of knot holes, and the workmanship was rough, whereas a more careful selection of material and better workmanship at a slightly added price would have insured the boat looking like a new one for several years.

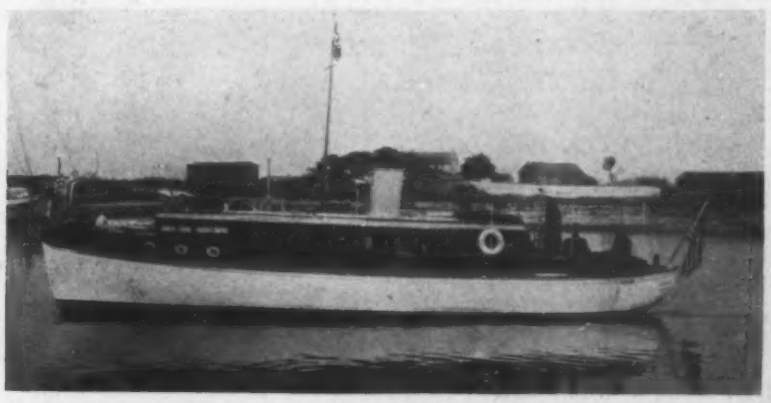
PAINT MAY COVER DEFECTS

Don't forget that paint can cover up a whole lot of defects in a boat, and it is usually impossible to tell from the outside what kind of material has gone into a job. You can sometimes tell by looking at the work *inside* where it is not painted. Look at the frames, note the quality of the wood and the fastenings. The boat should be copper fastened, especially, for salt water use. Take up the floor boards and look at the heels of the frames where they fit into the keel.

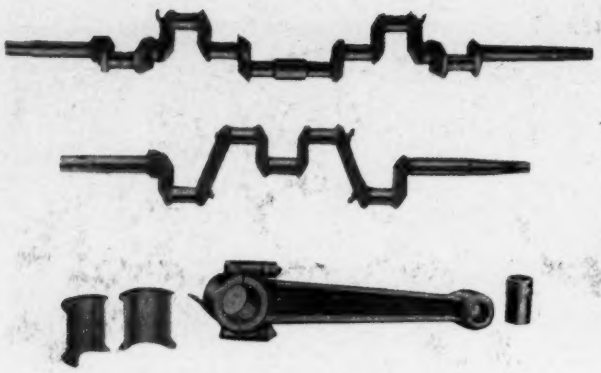
The garboard should be rabbeted into the keel, and not merely laid against it, as in the latter case the more you calk, the wider it forces the garboard seams open, and the boat is sure to leak. A close examination of the lower edge of the garboard on the inside will usually show whether it is rabbeted. Good workmanship is also apparent in the fitting of the planks in the rabbet of the stem. The work should be smooth, the planks well fitted and the seams tight.



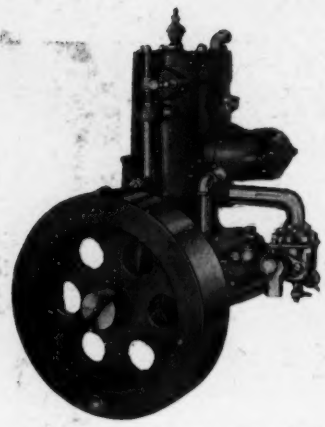
SMALL, BUT "CHUNKY" AND SEAWORTHY, WITH PLENTY OF BUOYANCY AND LOTS OF ROOM BELOW AND ON DECK FOR A BOAT OF HER SIZE



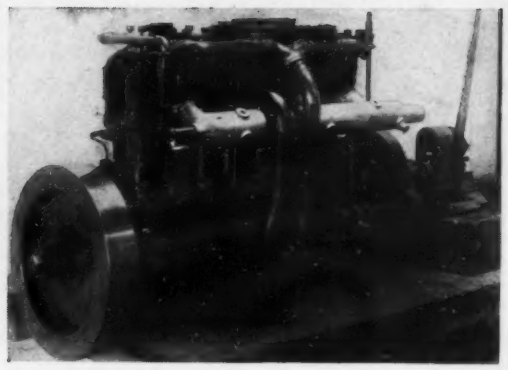
A FINE HULL BUT WITH DECK ROOM SACRIFICED TO CABIN WHILE HER PROPORTIONS HAVE BEEN SPOILED TO GET HEAD ROOM



CRANKSHAFTS, CONNECTING ROD, WRIST PIN AND BEARINGS. A GLANCE AT THESE EMPHASIZES THE NECESSITY FOR THE BEST OF MATERIAL IN THE VITAL PARTS OF A GASOLENE ENGINE



A VERY SIMPLE, YET EFFICIENT, MAKE-AND-BREAK MECHANISM



A MODERN FOUR-CYLINDER ENGINE WITH ALL THE NECESSARY EQUIPMENT MOUNTED ON ENGINE OR BED

It takes a lot of education and experience to build a good boat. It is a specialty that very few take up, because there is usually not more than a bare living in it, and if people aren't willing to pay a fair price for honest work there will be still fewer real boats and more "junk" afloat ten years hence than there is now. It is a shame the way some men will spend $6,000 for an automobile that does not cost over $2,500 to build, and yet will haggle over $50 on the price of a boat on which the builder at the outside won't make $100 profit. The result is obvious, and in most cases the purchaser gets no more than he pays for.

SELECTING THE POWER

If it is hard to tell a man how to pick out a boat, it is doubly difficult to tell him how to select an engine, especially if he is not "engine wise" and doesn't know a crankshaft from a vibrator. Such a man is usually governed in his choice by the color of the paint on the cylinders, the snappy-looking brass work, etc.

Yet it is as important to get the proper type of power in the boat as it is to select the boat itself. There are more misfit power plants in motor boats to-day than the average man realizes. This results in great loss of power, and frequently in unsatisfactory service.

Probably the most common mistake that is made in selecting a power plant is getting a high-speed, light-weight outfit for a heavy boat. Practically every boat that is not a speed boat, hydroplane, runabout or fast cruiser should have a heavy-duty engine of either low or medium speed, that depends upon the bore and stroke for its power, rather than on high revolutions. For the open launch, cruiser or auxiliary with a speed of 7 to 10 miles an hour the engine should not turn over more than 500 or 600 revolutions a minute, and for a heavy boat 450 revolutions is plenty fast enough. Remember this when buying, and also that the light-weight engine with aluminum base, turning from 900 to 1,200 revolutions, is intended for light craft or for speed work where from 15 to 30 miles an hour is expected. The saving of a few hundred pounds in weight is not vital in a cruising boat, and the heavy-duty engine should always be chosen. It will give more speed to the boat, will cause less trouble and wear longer.

VALUE OF A FACTORY BEHIND

While in principle the gas engine is only a chamber in which to explode a mixture of gas and air properly proportioned by the carburetor and exploded by a spark, yet if the design and proportions of the engine are not right it will never give satisfaction. Correct design and the proper size and placing of the ports and valves can only be determined by long experience and much testing. It is well to keep in mind the fact that there should be a *factory* behind an engine which is responsible not only for the design, but for the proper upkeep of your engine after you have bought it. This point cannot be overestimated. Many boat owners have been "stung" by buying from an irresponsible maker who has gone out of business soon after they purchased, leaving them with no way of renewing parts and with an obsolete engine on their hands.

CHOOSING BETWEEN TYPES

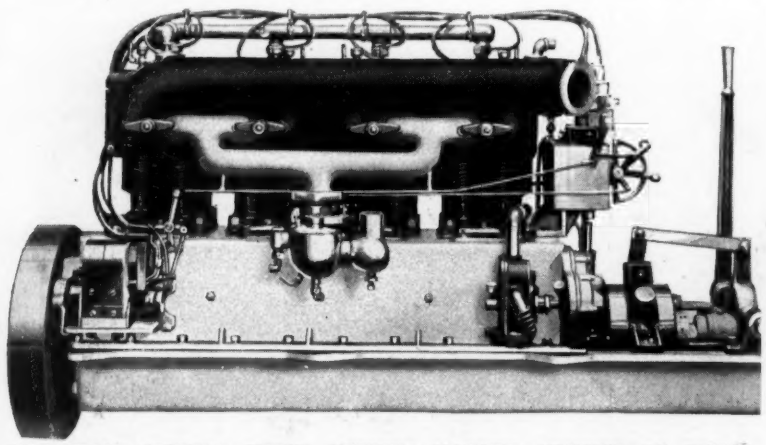
After deciding on a type of engine you also have to choose between a two and a four-cycle. Each have their good points.

As a broad proposition, it can be stated that a two-cycle engine is simpler, has fewer working parts, and is somewhat cheaper, while a four-cycle is somewhat more economical on fuel and for long, continuous service under hard conditions will give more satisfactory results. In actual practice we find the two-cycle type usually confined to the smaller sizes of under 20 horsepower, while above that the four-cycle have the call.

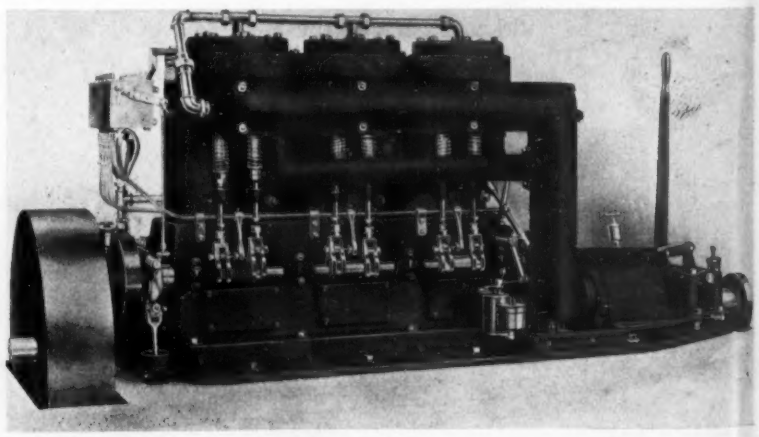
As regards economy in the small sizes, there is very little difference between the two types. The principal difficulty with two cycles in larger sizes is that they are not able to control the gases as well, and as a result are not so economical or do not give the proportionate power.

In studying catalog prices, be sure to note whether engine

(*Continued on page* 184)



JUMP-SPARK IGNITION OUTFIT, SHOWING MAGNETO MOUNTED ON ENGINE, AND WIRING



WHERE SIMPLICITY AND STRENGTH ARE THE KEYNOTES OF DESIGN IN A HEAVY-DUTY ENGINE FOR HARD SERVICE

In the April issue this series will be continued with an article on the VALUE OF PROPER EQUIPMENT FOR YOUR BOAT

GETTING UNDER WAY IN MARBLEHEAD HARBOR TO TAKE PART IN CORINTHIAN RACE WEEK REGATTA

What the Inter-Club Yacht Racing Association of Massachusetts Did in 1913

A Review of the Past Season in Massachusetts Bay's Largest Racing Organization, and Plans for This Year

By HOLLIS BURGESS

AFTER the long winter season had slowly rolled away, and the various races sailed by the rocking-chair fleet before the fireside had come and gone, all Massachusetts yachtsmen looked forward with keen interest to the opening of the active racing season last year.

As usual, May 30th opened the season in New England with a big regatta held under the auspices of the South Boston Yacht Club. For many years the South Boston Yacht Club has had the honor of starting the season, and the opening regatta is always one of great importance, as many new boats of unknown calibre make their appearance, and all Massachusetts yachtsmen watch their performances closely in order to get a line on their capabilities.

Over 140 boats made application for entry in this regatta, but, owing to severe weather conditions, only 56 of them came to the line. The wind was a smashing northwester and made rough going for the racers. In Class P the new Stranger, owned by R. P. Jenks, of Providence, was the only starter. The Italia split her mainsail while leaving Marblehead for South Boston, and had to put back. Amoret and Manataqua were unable to reach the starting line in time. Stranger covered the eight-mile course in 58 minutes—fast time considering the conditions.

Class A brought out a fine fleet of ten starters. Evangeline, a Herreshoff boat recently imported from Greenport, Long Island, by the writer, made her first appearance in Boston waters. Running before the wind she showed great speed and was close up to the leaders, Nutmeg and Marie L., when her rudder suddenly carried away and the boat shot helplessly up into the wind. Virginia was struck a heavy blow by the disabled craft as she rounded to, and a part of the former's top planking on the quarter was stove in. Evangeline was picked up by a motor boat and towed back to South Boston, while Virginia kept pluckily on and finished third, though considerable water came in through the hole in the planking.

In Class B there was a beautiful race between six fast boats. Radiant, a Herreshoff 21-footer owned by N. F. Emmons, of the Hingham Yacht Club, which made her first appearance in a regatta in Boston waters, sailed very fast and captured first prize in a decisive manner.

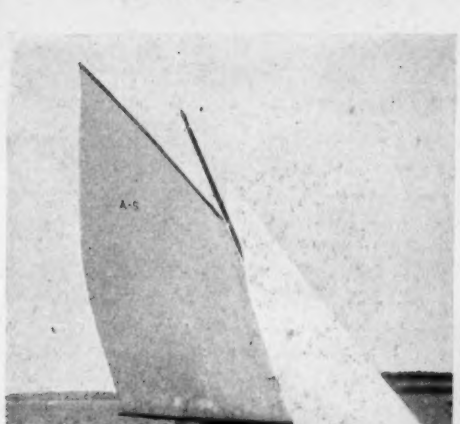
Class I, the scrappy little 18-foot class, one of the oldest restricted classes racing to-day, brought out five starters. Moslem II, owned by Commodore Harry N. Bloomfield, of the Cottage Park Yacht Club, managed to cross the line a winner after a hot race.

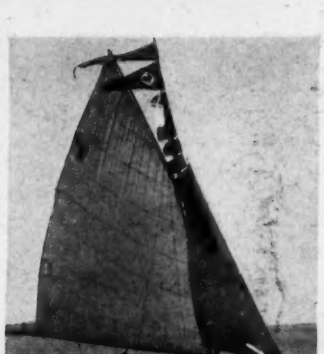
After the racing was over the visiting yachtsmen were hospitably entertained in the famous Dutch Room of the Club, and all hands pronounced the opening day of the 1913 season a great success.

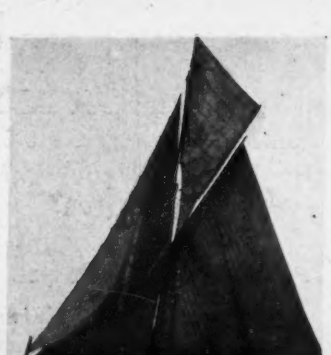
June 7th, the annual Dorchester Day open regatta was held under the auspices of the Savin Hill Yacht Club and the Dorchester Yacht Club.

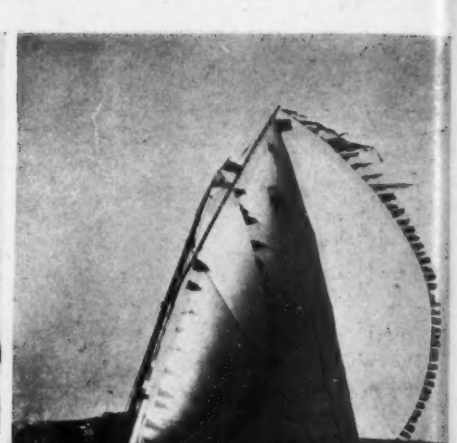
This race did not count for Association percentage and the classes were arranged differently than in the regular Inter-Club races. Class A comprised all yachts over 26 feet; Class B, all yachts 26 feet and over 21 feet, and Class C, all yachts 21 feet and under. Time allowance was figured on overall length instead of on the regular Inter-Club table of waterline plus one-third overhangs. This regatta was a City of Boston event, as it was held in connection with the city's celebration of the two hundred and eighty-third anniversary of the settlement of Dorchester.

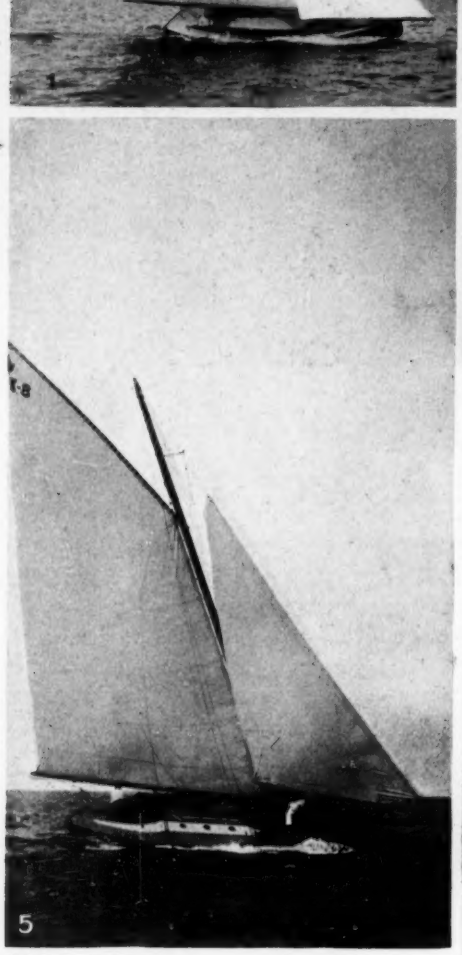
A terrific squall swooped down on the racers just before the start. The air was thick with clouds of dust blown from the shores, while vicious looking clouds scudding overhead and violent bursts of rain drove the fleet precipitately to anchor.

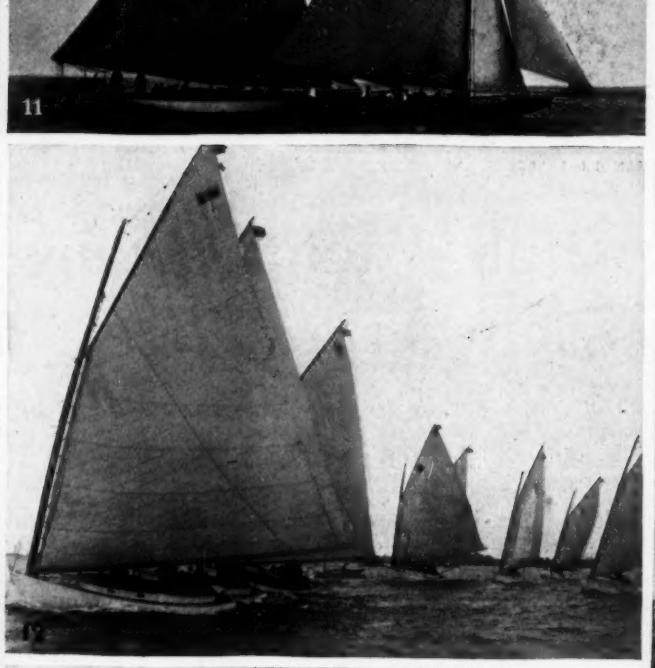


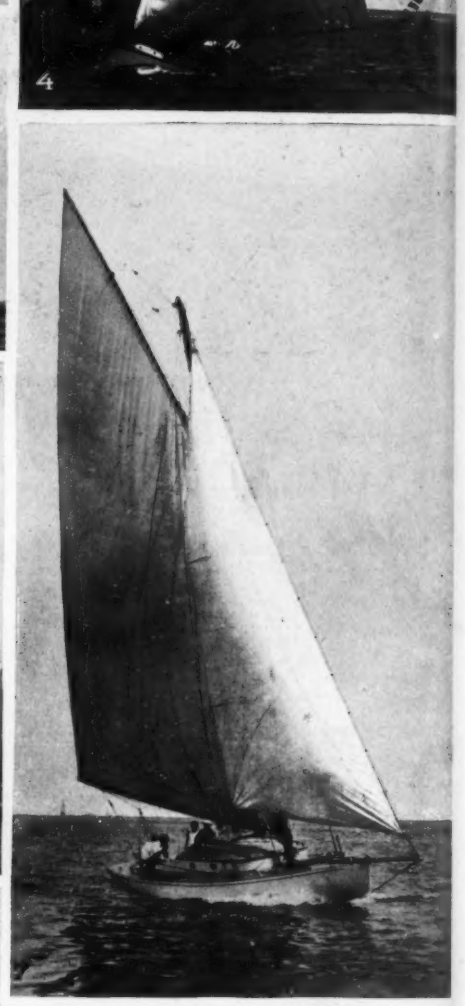


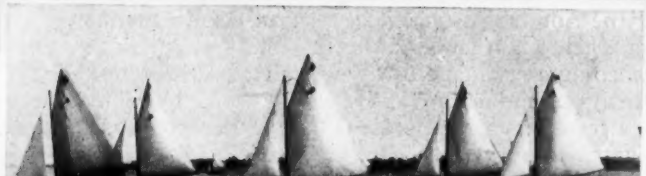


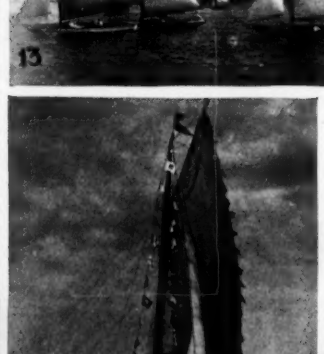


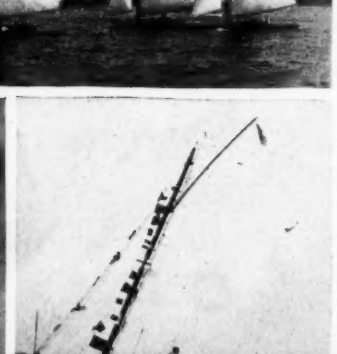












1. NUTMEG, A CELEBRATED PRIZE WINNER. 2. CHAMPION OF THE NEW WINTHROP ONE-DESIGN 15-FOOT CLASS. 3. H. LINDSAY, CHAMPION OF CLASS C. 4. IRIS, A NOTED HEAVY WEATHER PRIZE WINNER. 5. TYRO. WILL BE RACED IN CLASS A IN 1914. 6. SINTRAM, THE FAST LITTLE 21-FOOTER THAT BROUGHT THE BERMUDA CUP TO THE SOUTH BOSTON Y. C. 7. MARIE L., WINNER OF THE SOUTH BOSTON OCEAN RACE. 8. ELEANOR, A CENTERBOARD BOAT WHICH MADE A GOOD SHOWING IN CLASS A. 9. CHEWINK II, CHAMPION OF CLASS A. 10. MILLIE, CLASS H CHAMPION. 11. BAR HARBOR 31-FOOTERS IN A CLOSE START. 12. A START IN THE CATBOAT CLASS. 13. 18-FOOTERS HEADING FOR THE STARTING LINE.

Photograph by N. L. Stebbins.

START OF THE DORY CLASS OFF MARBLEHEAD NECK

After postponing the start for an hour and a half the judges sounded the starting guns. The wind had then fallen flat, though the rain kept up a steady downpour. The race proved a fizzle from a sporting point of view, as many boats were unable to reach the line in time and dragged along many minutes behind.

June 14th, the Columbia Yacht Club held the second Inter-Club race of the season. Sixty-two boats started and all but two finished. There was a fresh northwesterly breeze which held true the whole afternoon, and some very interesting racing was the result. Class A had nine starters and Marie L. won. Nutmeg withdrew on account of fouling a mark after making only an indifferent showing.

In Class B the closest racing of the afternoon took place. Olivia, which had just been put in commission, finally landed first prize, with Lethe second.

Bunker Hill Day, June 17th, was a big day for Inter-Club yachtsmen, as a double header, a race in the morning and another in the afternoon, was scheduled. The Cottage Park Yacht Club, of Winthrop, started the morning race promptly at half-past nine. In Class A Chewink II won. Nutmeg was absent, as she had gone to New Rochelle to take part in the long distance Block Island race of the New York Athletic Club, while Marie L. ran aground just before the start.

In Class B there were seven starters. Olivia established a long lead at the start, but on the last leg of the course, a beat to windward, Lethe gained on her rapidly. Lethe had been considered a heavy weather boat the previous season, but this year her mast had been lengthened and a larger sail area was carried, and in the light westerly wind on the final stretch she began to show signs of great speed. She could not quite catch the centerboarder Olivia, however, and had to be content with second place, but her performance showed that she would be a big factor in later events.

In the afternoon the Boston Yacht Club held its annual 17th of June regatta off Hull. For the first time in many years the race was sailed on outside courses off Point Allerton, instead of in Hull Bay. Through the influence of Chairman T. W. Powers, of the Boston Yacht Club's Regatta Committee, a special invitation to Inter-Club boats had been issued and the race counted for Inter-Club percentage. Seventy-five boats started in their different classes and the regatta was a big success except for the weather. When the first classes were sent away there was a light northwesterly breeze which changed to easterly before half of the classes had started. There was a strong ebb tide and several boats that had sailed to leeward of the committee boat before the start had a hard time to buck the tide successfully, and many of them were several minutes late in starting.

Class P had four starters. Stranger took the lead at the start and was never headed, though Italia was only 21 seconds behind. In the Bar Harbor 31-footers Vera II won first prize.

On June 21st the Mosquito Fleet Yacht Club regatta was held off City Point. The event proved nothing more than a drifting match, as a few occasional zephyrs were the only sign of a breeze felt during that afternoon. Four hours was the time limit for the nine-mile course and the Class X dories only just squeezed over the finish line within the time limit.

In Class A the light weather boats had poor luck and there were several surprises in the final summary. Chewink II won first prize, Little Haste second and Virginia third. In Class B Sintram showed her well-known light air qualities and won handily.

The Savin Hill Yacht Club regatta on June 28th was sailed in a fresh northerly breeze. A big fleet of 64 boats took part in the day's sport, and the time made by several of the sailboats around the eight-mile course was remarkable. The redoubtable old H. Lindsay covered the course in one hour 14 minutes and 23 seconds, while Meemer, Zidana and Olivia all finished the course in almost as fast time. This was the big centerboarder Meemer's first appearance of the season, and with a new suit of sails of large area she won first without much difficulty.

July 4th the annual City of Boston regatta was held off Marine Park, South Boston, under the auspices of the Inter-Club Association, for prizes offered by the City. This race did not count for percentage, but 61 boats came to the starting line and the racing was close and exciting.

In Class A there was a very keen contest. Meemer got the gun but was not figured in the summary, because she had not been measured for this year's racing. Chewink II took first prize away from Virginia by the scant margin of one second on corrected time.

In Class B Lethe won first by a good margin, with Olivia second and Winona third. Ten boats raced in this class. There were two bad fouls in this race. The 18-footer Louise was struck by Quakeress while rounding a mark, and the former's sail was split, while Dartwell was fouled by Dolly III in Class D.

Next day the Quincy Yacht Club held its race in a light southwesterly breeze with 62 starters. In Class A Marie L. and Nutmeg were absent and Meemer won by over five minutes, corrected time. Lethe again beat out Olivia for first position in Class B by a good margin.

The following Saturday the Wollaston Yacht Club regatta was held in a smashing southwesterly breeze. Several of the racers were disabled in the vicious puffs. Ralph Hendrie's Cheroot lost her mast while making a strong bid for first place; Marie L. broke her gaff; Winona's sail was split into ribbons; Wawenock's bowsprit was carried away in a collision with the catboat Iris, and the dory Pointer III was capsized.

The powerful Meemer carried off the honors in Class A without much difficulty. In Class B Olivia took revenge on Lethe for her past two defeats and beat her over a minute. Sintram did well for a light weather boat, beating out the fast heavy weather boat Radiant for third prize.

H. Lindsay won in Class C, closely followed by Violet, which had carried away her topmast but finished with the splintered spar lashed in the weather rigging.

After the race lunch was served and a dance was the feature of the evening. Many yachts remained in Wollaston that night, as an Inter-Club rendezvous was scheduled for next day. This was the first time this affair had been planned, and it was hoped to make it a big success. The idea was to have all the Inter-Club yachts pass in review off the Wollaston Yacht Club and to sail in a parade, with colors flying, around the Bay and back to City Point. This enjoyable program was broken up completely, however, by a heavy gale, and the affair was called off until the following year. This parade was a good idea, as it would have shown what an imposing fleet the Inter-Club can muster on occasion, and the blue Inter-Club pennant with its big white letters I. C. would have been cordially saluted by hundreds of Massachusetts yachtsmen along the Bay that day if the weather had only been kind.

On July 19th the annual 100-mile South Boston Yacht Club Inter-Club ocean race started at 4 P. M. with eleven boats taking part. A fine westerly breeze sent the Class A boats Meemer, Virginia, Marie L., Chewink II., Eleanor and Wanderer IV across the line in good shape, but before the Class B boats, which started ten minutes later and five minutes after Class C got away, the wind had petered out to a greasy calm.

The first leg was to the Graves whistling buoy, and H. Lindsay, with her big topsail catching whatever breeze there was aloft, had established a good lead at the turn when darkness shut down. All night the racers drifted along with an occasional puff forcing them on at fair speed, only to be followed by a depressing calm.

At Thacher's Island, where the torpedo boat Rodgers with the race committee aboard was stationed to time the boats as they passed the whistler, the H. Lindsay was finally sighted at midnight. She rounded the mark at 12.14 A. M. Meemer followed 21 minutes later with Chewink II and Marie L. right at her heels. Winona, the last boat, rounded the Thacher's mark 2 hours and 9 minutes after H. Lindsay.

On the way back to Boston Lightship, which the fleet had rounded on their course down to Thacher's, Marie L. went into the lead and rounded the Lightship at a little after half-past eight in the morning, with Meemer and H. Lindsay close behind. Back to Thacher's went the racers, a moderate easterly wind springing up enough to drive them along a little. Virginia, Lethe and Wanderer had withdrawn from the race during the night, their crews disheartened at the light weather.

In the afternoon on the way home a westerly breeze sprang up, which made a dead beat for the tired crews. Lowering clouds and spurts of rain also added to their discomfort. Late in the afternoon the Meemer crossed the finish line, followed 20 minutes later by Marie L., which won easily on time allowance.

Just at dark the Class C sloop Thialfi tore across the line in a ripping westerly squall which looked bad for the other craft lagging behind. The wind soon died away, however, and the others straggled in during the night and early morning. Winona, the last boat to finish, is owned by R. J. Murphy, of the South Boston Yacht Club, and he and his crew were highly commended for keeping so pluckily at the long grind in the teeth of the most discouraging weather conditions.

July 26th, the Squantum Yacht Club regatta and Ladies' Day were held together and proved highly successful, thanks to a perfect day for both events. A rather puffy southwest breeze made things interesting in Class A, particularly as Meemer carried away her rudder and had to withdraw. The fight for first place between Marie L. and Nutmeg was very close, but Nutmeg finally landed ahead by 31 seconds actual time.

In Class B Olivia led over most of the course, but on the final leg, a beat to windward, the choppy sea slowed her up perceptibly, and Lethe beat her to the finish by almost two minutes.

In Class C Violet carried away her topmast again, but put up a game struggle, finishing only 41 seconds after H. Lindsay.

On August 2d a big fleet appeared for the Lynn Yacht Club race off Nahant. There was a light southwesterly air at the start which soon died away, and not a single boat could reach the finish until long after the time limit had expired. It was late at night before some of the belated racers could drift back to Nahant, and it was one of the calmest afternoons of the summer.

The following morning the annual Inter-Club Squadron Run from Bass Point, Nahant, to Marblehead, started at half-past eleven. This event always brings out a big fleet, as the day following marks the beginning of the famous Midsummer Race Week in Marblehead. Eighty boats took part in the run, while a large number of other craft headed for Marblehead that morning from other points along the shore. The waters between Boston and Marblehead were literally covered with sails, and the fact that sailboats still reign supreme on Massachusetts Bay was amply attested that day.

In Class A Nutmeg and Marie L., with their big sail spreads of about 1,200 square feet, ran away from the others, Nutmeg taking first prize and Marie L. second. In Class B big sail area again counted for much in the 14 miles of running in a light breeze, and Lethe, with her lofty spar plan, won without much difficulty. H. Lindsay ran like a ghost, with her big topsail driving her along, and not only won an easy victory in Class C, but made the fastest time of any boat in the fleet—1 hour and 56 minutes for 14 miles.

On Monday the Eastern Yacht Club opened Race Week with a regatta in which 64 boats started. Only Classes A, B and D of the Inter-Club were provided for, but these were well filled. Eight boats started in Class A and Nutmeg took first prize.

In Class B Sintram surprised everyone by handily beating her seven competitors. The wind was very light at the start and Sintram, with her narrow, easy lined form, took kindly to the weather conditions.

A northeast squall at the finish made things interesting for the smaller classes, but no mishaps of any kind were recorded.

The following day the biggest regatta in the history of the Boston Yacht Club at Marblehead took place, with 117 boats starting in a moderate southeast breeze.

In Class P there was an interesting contest between six of these smart-looking racers, and Italia finally won out handily, followed by Amoret. Six Bar Harbor 31-footers also had a close race, Leenane taking first honors with Edjacko second. The sonderklasse contributed nine starters and the Ellen won a decisive victory. In Class A Nutmeg again won from seven boats. Marie L. was making a good showing when her throat halyard parted and she lost considerable ground.

In Class B a surprise was sprung by the appearance of an old *sonder* boat, Sally XI, with a small cabin built over her washboard. She had no number on her sail, and several of her competitors did not know she was in their class. She romped away from all her rivals except Lethe, which, with her large sail plan, succeeded in staving off defeat by less than a minute.

The advent of a *sonder* boat in Class B was not lookd upon with favor by the others in the class, as *sonder* boats are lightly built craft intended for day sailing and faster by far than the average cabin 21-footers, which for the most part make up Class B. However, as Sally XI had a small cabin, the Inter-Club officials decided to allow her in the class for this season.

Next year the Inter-Club Association will adopt the *sonderklasse* as one of their regular classes, several *sonders* having already been purchased by Inter-Club yachtsmen, and in this way the menace of a light racing boat in Class B will be removed.

The biggest class of the afternoon was the Hingham and Winthrop 15-footers with 12 starters. G. H. Griggs, of the Winthrop Yacht Club, distinguished himself by putting Vixen across the finish line in first position, with Prancer, sailed by R. S. Wells, only 20 seconds behind.

Wednesday the Corinthian Yacht Club opened its four days of racing with a world's record fleet of 188 starters. Thirty classes took care of this immense fleet, and it is estimated that at least 1,000 men made up the crews on the boats. There was a smashing southerly breeze, with considerable of a sea outside, and several mishaps were recorded. The only serious accident was to the Class T 15-footer Princess, owned by J. P. Prince, of the Annisquam Yacht Club, which was rammed by the 15-footer

Tabasco Jr. with such force that a large hole was stove in her bow. She filled rapidly and sank, though her crew was rescued by another boat. The next day she was raised and taken to a nearby boat yard, where she was repaired in a few days and made as good as ever.

The Inter-Club winners on this and subsequent days of Race Week are given in tabulated form at the end of this article.

The next day all records were smashed again with 190 starters. It was probably the flukiest race ever sailed off Marblehead, the wind starting light northeast and falling flat before the race was half over. Classes B, H and D failed to make the course in the time limit and a large number of boats withdrew.

The following day the records were again smashed as 191 boats appeared. As this was Ladies' Day at the Corinthian Yacht Club, the clubhouse was decorated with flags and a fine band mingled its music with the roar of the starting and finishing guns and made things lively for the fair sex which thronged the piazzas. In the morning a heavy fog and mist threatened to spoil the sport, but fortunately the weather cleared in the afternoon and there was a light southeasterly breeze.

The following day Midsummer Week ended in a blaze of glory. There was a stiff southwesterly breeze and a nasty chop for the racers, and for this reason only 154 boats crossed the starting line. Out of the four days' racing of the Corinthian Yacht Club series a total of 723 boats took part, a record of which the club can be justly proud. William L. Carlton, chairman of the club's Regatta Committee, assisted by an able board of judges, ran the races without a hitch. It is a difficult task to handle such an immense fleet of yachts in so many different classes, and the fact that there was not a single protest made by any of the boats speaks volumes for the wonderful work of the judges.

In the evening a grand celebration was held at the Corinthian Yacht Club's handsome house, and the valuable Midsummer Series trophies were presented to the following fortunate winners: Class P, Italia; Class M, Lila M.; Class N, Odysseus II; Bar Harbor 30's, Leenane; Sonder, Sprig; Class Q, Manataqua; Class A, Meemer; Class B, Lethe; Class C, Corneta; Class S, Maritza; Class D, Dartwell; Class H, Wanderer IV; Class I, Bonitwo; Class X, Barbara; Class R, Sumaki; Class S, handicap, Asteria; Boston Yacht Club Second Rating, Chevy Chase; Marblehead 17-footers, Atalanta; Manchester 17-footers, Kiowa II; Corinthian 15-footers, Half Moon; Hull-Gloucester 15-footers, Wawa; Hingham-Winthrop-Scituate 15-footers, Dancer; Nahant Bugs, Stinger; Class T, Swallow; Annisquam Cats, Catspaw; Alpha Dories, Celt; Beachcomber Dories, Spud; Beachcomber Special, Number 2; Winthrop Dories, Ruth; 16-foot handicap, Chekaka; Pleon Classes, Pigeon and Freak; Power Boat Classes, Premier III, Constance and Hoptoit.

August 16th the Winthrop Yacht Club held its Inter-Club race, and a big fleet of 83 boats appeared for the event. This was a most unusual regatta in that it counted for double percentage and double prizes were offered, as the Inter-Club officials had decided to combine this regatta with the Lynn Yacht Club race, which had to be resailed from August 2d. As there was no date available for resailing the Lynn race, combining the two races was a wise move, though many boats lost something of their standing in their respective classes through this double percentage. The hardest hit of all was the Class B yacht Olivia. Before Midsummer Week this boat had established a lead of 18 points on her nearest competitor Lethe, and looked like a sure winner of the championship. Marblehead seas and light weather had worked havoc with her record, however, and before the Lynn race she had dropped to three points below Lethe. In this race she finished near the end and lost 16 points, thereby putting her out of the running for first position. Another boat which lost heavily through the double percentage was Virginia, which finished next to last.

The wind during this race was very light and fluky and the heavy breezes of the first part of the season seemed to have given way now to continuous calms and uncertain weather.

The following week the Boston Yacht Club held its Midsummer Series at Hull, Inter-Club classes being given on Saturday, August 23d, only. On that day 67 boats raced in a strong southwesterly breeze. Sayonara II cleaned up Class P and Mildred IV made a runaway of it in the Bar Harbor Class, beating her nearest competitor, Cricket, by almost five minutes. In the Boston Yacht Club First Rating Class, Tyro defeated Nutmeg and Marie L., giving her the Boston Yacht Club championship with three firsts and one second out of the week's racing. Ellen sailed a magnificent race in the *sonderklasse* and finished over 15 minutes ahead of her class. In Class C the Violet, after the race, reported that she had fouled a mark and thus put herself out of the running, though she would otherwise have won by one second. The sportsmanship of Violet's crew in reporting this foul was highly commended, as they were striving hard to take the prize away from H. Lindsay. This little incident is only one of many which shows what good sportsmen the Inter-Club yachtsmen are and the fine spirit with which their races are sailed.

On Labor Day the Bermuda Cup Race was held under the auspices of the Winthrop Yacht Club off Winthrop Head over a 33-mile course. Twenty-one boats appeared for this event, the number of starters being smaller than expected owing to the calm which prevailed at the start of the race. The preparatory signal was scheduled for 9.15, but was postponed an hour, the judges hoping a breeze would spring up. At 10.15 the signal was given, though several boats were unable to reach the line on time, Meemer in particular being 46 minutes late.

In Class A there were six starters; in Class B, five; four in Class C, and six in Class H. There was a tiresome drift to the Graves Whistler, Marie L., with her lofty sail plan, slowly slipping away from the fleet. On the leg to Boston Lightship the wind freshened a little and there was a fine beat to windward. At Hardings Ledge Buoy Marie L led the fleet by a good margin. Virginia was second at this point and Chewink II third, with the rest of the fleet scattered. The little Sintram was sailing like a witch and hung desperately to the larger boats ahead of her.

The wind continued light and fluky all day, and it was a heartbreaking race for the crews on the different boats. Lethe, which had been picked by many to win the race, dropped out after falling far behind. She had gotten into a soft spot while the rest of the boats slipped away from her, and there she stayed for many minutes until her crew gave up in disgust. As it turned out, however, if she had kept on, she might have won. But "ifs" do not count in yacht racing.

The last leg of the course was a beat, and a moderate southwesterly breeze finally struck in. Meemer had been mowing down boat after boat during the race, and so fast did she sail this day that she passed every boat in the fleet with the exception of Marie L., a wonderful performance when it is remembered that she started 46 minutes late. Marie L. tore across the finish line at a little after half-past five and Meemer followed only a couple of minutes later. Nutmeg, which had been picked as the favorite in this race on account of her great running and reaching qualities, finished third, less than a minute behind Meemer. The big topsail sloop H. Lindsay finished fourth, though at one time during the race she looked like a winner when she led the fleet at Flip Rock, Nahant. The last leg to windward, however, proved her undoing, as she could not hold her own on windward work with her more modern competitors, and dropped back rapidly.

The 21-footer Sintram, owned by Mullen and Crawford, of the South Boston Yacht Club, finished at 6.11, and on corrected time won the Bermuda Cup by almost four minutes. In this race Classes B, D and H received 25 seconds a mile allowance added to the regular Herreshoff time allowance table from Classes A and C, but in spite of this generous handicap it was generally expected that either an A or a C boat would win the trophy. Sintram's victory was not only unexpected, but extremely popular among the yachtsmen, as it means that the South Boston Yacht Club will hold the Bermuda Cup Race next year, assuring a great success for this event.

September 6th, after a period of many years of inactivity as a regular yacht racing organization, the famous old Jeffries Yacht

Club of East Boston came back again strong by giving an Inter-Club race in which 51 boats participated. The course took the boats across the main ship channel into Boston Harbor, and several large steamers came along just as the racers were strung out in a long line. It seemed as if some accidents were inevitable, as the steamers refused to slacken their speed at all, but, by skilful handling all of the racing fleet passed through unscathed.

Meemer took first prize in Class A without much difficulty. Lethe romped away from Class B, finishing four minutes ahead of Porcupine. At the close of the race the Jeffries Yacht Club held open house, and everyone pronounced this first Inter-Club regatta ever given by the club a great success.

September 20th the Hingham Yacht Club held the last Inter-Club race of the season. Fog, rain, and a fresh northeaster kept the number of starters down to 32 boats, but racing was close and exciting.

October 11th the Winthrop Yacht Club held a big celebration in which the trophies for the season, Inter-Club, Y. R. A. and Club, were formally presented to the fortunate winners. Commodore Blazo formally turned over the City of Boston Bermuda Cup to the South Boston Yacht Club, and after this ceremony President John J. Harland, affectionately known to all Massachusetts yachtsmen by the title of "Inter-Club Jack," presented championship cock-of-the-walk pennants as follows: Class A, Chewink II, Frizzell and Swensen, Jeffries Yacht Club; Class B, Lethe, J. J. Dyer, Hingham Yacht Club; Class C, H. Lindsay, Power and McCarthy, Jeffries Yacht Club; Class H, Millie, C. F. McDonald, Columbia Yacht Club; Class S, Maritza II, C. H. Porter, Lynn Yacht Club; Class D, Dartwell, I. M. Whittemore, Quincy Yacht Club; Class X, Terror II, C. H. Sass, Wollaston Yacht Club; Class I, Moslem II, H. N. Bloomfield, Cottage Park Yacht Club; Winthrop 15-Foot One-Design Class, champion 15-footer, Griggs and Burlen, Winthrop Yacht Club.

In addition to the championship pennants Chewink II was awarded the A. C. Jones Cup and Lethe the Turner Cup. Marie L. was presented with the handsome Brown trophy for winning the South Boston Yacht Club ocean race. Red pennants were also awarded the boats finishing second in Inter-Club percentage and white pennants those finishing third.

November 1st the annual banquet of the Inter-Club Association was held at the Revere House, Boston, and proved a great success. Over 200 yachtsmen gathered around the festive board and Inter-Club enthusiasm ran high. Secretary Campbell, in relating what the Association has done during the year, announced that there had been 730 starters as against 580 in the preceding year.

(*Continued on page* 196)

Corinthian Race Week.

BOAT.	May 30, South Boston.	June 7, Dorchester Day.*	June 14, Columbia.	June 17, Cottage Park.	June 17, Boston.	June 21, Mosquito Fleet.	June 28, Savin Hill.	July 4, City of Boston.	July 5, Quincy.	July 12, Wollaston.	July 19, S. Boston Ocean Race.	July 26, Squantum.	August 2, Lynn.†	August 3, Run to Marblehead.	August 4, Eastern.	August 5, Boston.	Au	August 7.	August 8.	August 9.	August 16, Winthrop.	August 23, Boston.	Sept. 1, Bermuda Cup.	Sept. 6, Jeffries.	Sept. 20, Hingham.
CLASS A.																									
Nutmeg	1	..	..	..	..	..	..	..	..	..	..	1	..	1	1	1	..	..	1	..	1	..	..	..	..
Marie L.	2	..	1	..	1	..	..	..	..	..	1	2	..	2	2	..	..	..	..	..	3	..	..	..	1
Virginia	3	..	..	2	2	3	3	2	3	..	..	..	..	..	..	3	..	..	..	..	..	..	..	3	..
Chewink II	..	..	2	1	3	1	2	1	2	..	3	..	..	3	..	..	..	..	..	..	..	..	..	2	3
Flirt	..	1	3	3	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Little Haste	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meemer	..	..	..	..	..	..	1	..	1	1	2	..	..	..	3	2	1	1	..	1	2	1	..	1	2
Eleanor	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..
CLASS B.																									
Radiant	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chevy Chase	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..
Quakeress	3	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Olivia	..	..	1	1	1	3	1	2	2	1	..	2	..	..	..	..	1	..	..	..	..	..	..	..	2
Lethe	..	..	2	2	..	..	..	1	1	2	..	1	..	1	2	1	..	‡	1	1	1	1	..	1	1
Winona	..	..	..	3	..	..	2	3	3	..	..	3	..	..	..	..	..	‡	..	..	..	..	..	..	..
Sintram	..	..	..	..	2	1	3	..	..	3	..	..	..	2	1	3	..	‡	..	..	..	..	1	..	3
Pirate	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Porcupine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	2	..	..	2	..
Sally XI	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..
CLASS C.																									
H. Lindsay	1	..	1	3	1	1	..	1	..	1	..	1	..	1	..	..	..	..	..	..	1	1	..	1	2
Violet	2	..	..	2	..	..	..	..	..	2	..	2	..	..	..	..	..	1	..	..	..	..	..	..	1
Thialfi	3	..	..	1	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..
Corneta	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	..	..	..	..	..
CLASS D.																									
Dartwell	1	..	2	..	..	..	..	..	2	2	..	..	..	1	..	1	..	‡	1	1	1	1	..	1	..
Iris	2	..	1	..	..	..	1	..	..	..	..	2	..	3	..	..	..	‡	..	..	..	..	..	..	..
Clara	..	1	..	..	1	1	2	..	1	..	..	..	..	2	1	..	..	‡	..	..	..	..	..	..	..
Mudjekeewis	..	..	3	1	..	..	3	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..
Dolly III	..	..	..	..	..	..	..	1	..	..	..	1	..	..	2	..	1	..	..	..	..	..	..	..	..
Grayling	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
CLASS H.																									
Thordis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Nokomis	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	‡	..	..	..	..	..	..	..
Imp	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	‡	..	..	1	..	..	..	..
Tavie	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	‡	..	..	..	..	..	..	..
Millie	3	..	..	2	1	..	3	3	..	..	..	1	..	..	..	..	..	‡	..	..	..	..	..	..	1
Sinbad	..	..	1	..	..	..	2	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Dorsyl	..	..	2	1	..	1	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Idalia	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Zidana	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mavis	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wanderer IV	..	..	..	..	..	..	..	2	1	1	..	..	..	1	..	..	..	..	1	1	..	..	..	1	..
Raccoon	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..
CLASS I.																									
Moslem II	1	..	2	..	1	1	2	..	..	2	..	..	..	..	..	..	1	..	..	1	1	1	..	..	..
Cheroot	2	..	3	1	3	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Louise	3	..	1	..	2	..	1	..	1	1	..	2	..	..	..	1	..	..	..	..	..	..	..	1	..
Dorchen II	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scaler	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..
Bonitwo	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	..	..	..
CLASS S.																									
Wamenock	1	..	..	..	..	..	1	1	..	..	..	1	..	3	..	..	..	..	..	..	..	1	..	..	..
Zoe	..	..	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Gaby	..	..	2	..	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Maritza II	..	1	3	..	..	1	..	..	1	1	..	2	..	2	..	1	..	1	1	1	1	..	..	1	1
Arethusa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
CLASS X.																									
Terror II	1	..	..	1	..	..	2	1	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..
Elizabeth F	..	1	1	..	..	1	1	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	1	..
Pointer	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bettie C	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barbara	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..
Teaser	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Koka	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	..
Bessie A	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..

Boats' records are shown only when raced in regular Inter-Club Classes. Number 1 means a first place. Number 2 means second place. Number 3 means third place. Second and third places in some of the smaller classes are not always given.

* Race was not according to regular Inter-Club classifications. † Race called off on account of lack of wind. ‡ Did not finish.

TUCAPITO, THE CAPITAL OF THE DELTA TERRITORY

A VILLAGE ON THE MANAMO

The Wanderings of Min-Mo Under the Southern Cross

Part III—In the Orinoco Delta

By T. C. MORRIS

EARLY in June I received orders to get the boat ready for a trip to the Orinoco for exploration purposes. This was something to look forward to, as I had always wished for an opportunity to explore that river and the Amazon. So I had the engine room and galley supplies overhauled, as it would be necessary to carry provisions for at least two months, made up a list of medicines and a "first-aid" box, and gave the ship a general overhauling. I sent ashore the big 175-pound anchor and picked up a small one and 300 feet of ¼-inch manila, so as to have a spare light anchor, as sometimes an anchor gets fouled under a log and at times has to be left. This almost happened to me once, but we succeeded in bringing the old tree to the surface and chopping it loose.

Sunday seemed to be the day on which I had started on so many trips, and it was the case this time as well. I had brought the Min-Mo down from her moorings in the morning and tied up at the jetty at Guanoco. A number of friends, being off duty, came down to see us start on our long trip, and just at high water I pulled the "stand by" bell, the lines were cast off, and at the clang of the gong the little boat slid away on her journey at 6.15 P. M.

Beside the regular crew, we carried an extra seaman and two of the company's staff. Having a strong tide in our favor, we made excellent time and anchored at the guard-house at the mouth of the San Juan River at 9.30 P. M.

All hands were up long before daylight next morning, as I wished to get across the bar while it was calm, and we were fortunate enough to find the Gulf fairly smooth until we arrived in sight of Soldado rock, when we met the usual stiff breeze and swell rolling in from the Serpent's Mouth, the southern entrance of the Gulf of Paria. However, here is where we turn the end of Cobora bar and head in for the Pedernalis River, so it did not trouble us very much, and at 11.30 we were at anchor off the village of Pedernalis. Having a depot of gasoline there, we filled our tank and took on board five 50-gallon drums as well. Two were stowed in chocks on the cabin roof and the other three "up-ended" on the after deck. When this was done and our papers made "clear" at the custom house, we went ashore and spent the rest of the afternoon at the camp. The following morning we got started up the Manamo, which is one of the hundreds of streams comprising the wonderful Orinoco delta. Here we began to plat the rivers, running all courses on time and by degrees. I was at the wheel myself continuously, calling every change of course, while the two engineers sketched the streams in their field books and took the running time between points. It was all very interesting, and the more so because the streams were absolutely new to us. We were also getting into fresh water and away from the horrible mangroves, of which we were all very tired.

Ascending the Manamo we met quantities of wild hibiscus or water lilies drifting down; they had been torn up by the roots by the rising waters and formed into small rafts. Sometimes they were in such quantities it was hard to avoid running into them. We passed a number of canos leading off from our river, and sometimes it was hard to tell which was the one to take, but, luckily, one of my men forward had made the trip in a small sloop a couple of years before, and he was able to show the way.

We ran for miles without seeing anyone, except that we passed two small vessels loading mangrove bark whose crews stared us out of countenance. Along toward 5 o'clock we began to look for a good place to anchor for the night. In all these streams one has to think of several requisites for an anchorage, such as to get out of the fierce current, to find shoal water, and to keep far enough from the trees to avoid being boarded by mosquitoes, which in certain places are very plentiful.

The following morning we got an early start and along about noon saw the first house we had sighted. It was right ahead of us as the river made a short turn to the left, and we could see the people coming down to the bank to have a look at us; but on our approach they turned and disappeared into the swamp at top speed, much to our amusement. I suppose they took us for a Venezuelan gunboat, and were not taking any chances.

At 3 o'clock in the afternoon we anchored off the town of Tucapito, the capital of the Delta Territory. There are about 800 inhabitants here, besides the Governor and other officials, and the usual custom house people, and in a few minutes there was quite a crowd on the bank looking at us. Then the customs boat came alongside and, after looking at our papers, gave us *pratique*. So we dressed up and went ashore to pay our respects to the Governor. He was away, however, but the Deputy Governor, the Treasurer and one of the Generals received us and showed us every courtesy. That evening I gave a little dinner on board, having several of the officials and two ladies in the party, and afterwards, as it was moonlight, we took them for a short run down the river.

Two customs officers came on board before we left next day and asked for a passage to Imataca, which I was very glad to give them. It's a good bet in this country to be extra nice to the custom house people; they have it in their power to annoy one excessively, or make things easy. Therefore, I was always ready

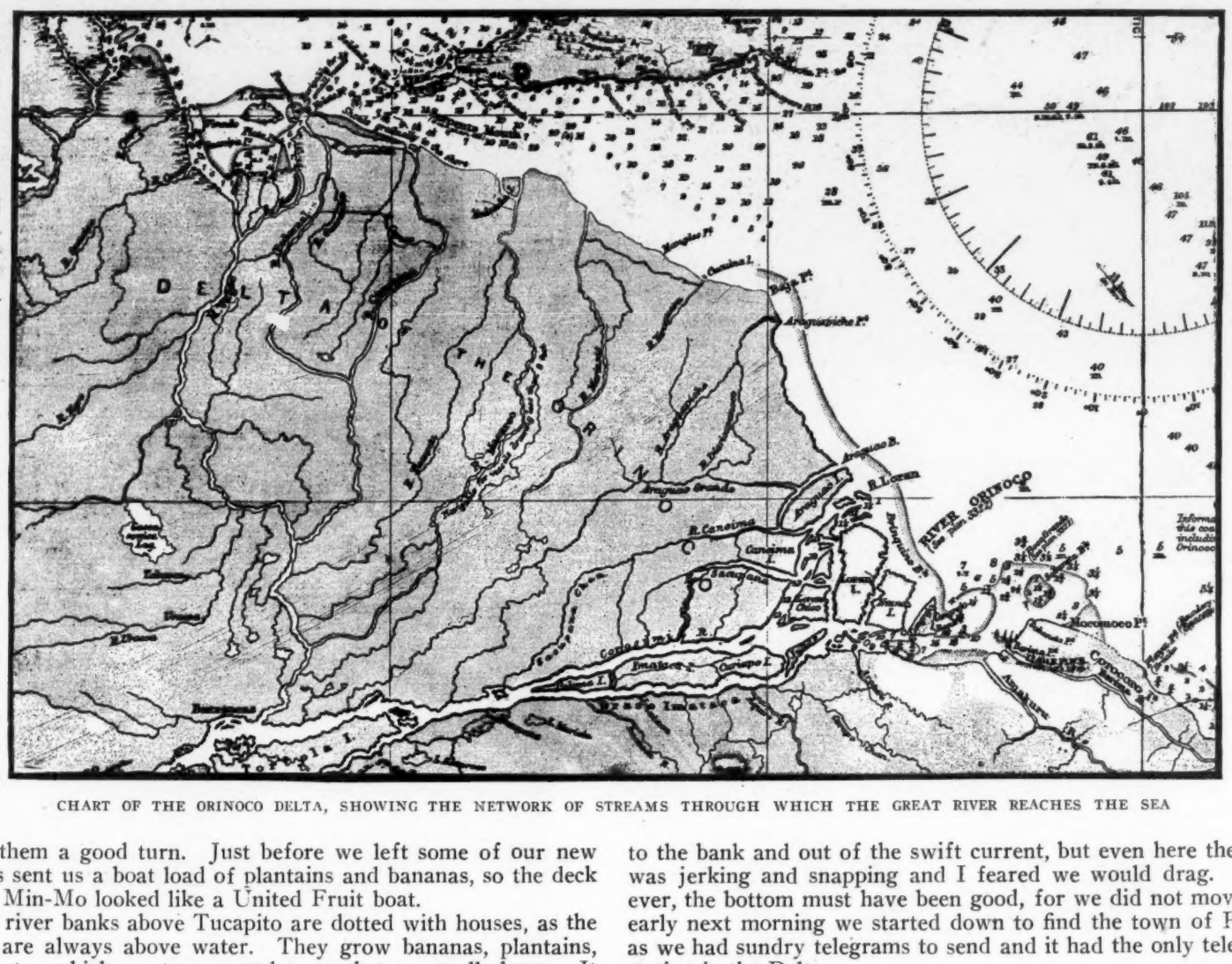


CHART OF THE ORINOCO DELTA, SHOWING THE NETWORK OF STREAMS THROUGH WHICH THE GREAT RIVER REACHES THE SEA

to do them a good turn. Just before we left some of our new friends sent us a boat load of plantains and bananas, so the deck of the Min-Mo looked like a United Fruit boat.

The river banks above Tucapito are dotted with houses, as the banks are always above water. They grow bananas, plantains, cocoa, etc., which are transported to market on small sloops. It takes these craft a long time to make the round trip; going down is easy, but coming up against the current takes time and patience. They keep close to one bank or the other, and if the wind is not strong enough they send a boat ahead with a kedge and pull themselves upstream by main strength.

We passed several small villages as well as scattered houses, but one thing struck me as strange, and that was the little interest shown by the people in the passing of a strange motor yacht. The chances are that few of them ever saw such a boat before, but they evinced less curiosity than I have often seen in the States, where motor boats are common.

Having to visit a small settlement during the morning and not knowing exactly where to find it, one of our custom house passengers came into the wheelhouse and pointed out an extremely narrow cano as being the proper stream. So I turned in and proceeded to get the fidgets, as the cano was so narrow there was no chance to turn around; in fact,, the grass along the banks often brushed our sides. However, the pilot declared it was wider higher up; and as the lead gave us four fathoms, we kept on and presently came to a sort of lagoon, where I stopped and let go the anchor. There was barely room to swing, at that, on as short a cable as she would lie to, but there was five and a half fathoms, so there was no danger of getting aground.

This little cano was the most attractive place I had seen in Venezuela; bordered with groves of bananas and cocoa plantations, and lots of flowers around the houses.

Our business finished, we ran out and turned out of the Manamo into the Orinoco, about 10 miles below Barraneas, and headed towards its mouth. Here we had the current of the mighty river with us and we began to make some speed. We passed through a number of islands and at 6 o'clock came to anchor in the entrance of the Cano Piacoa. We found a comparatively shoal spot close to the bank and out of the swift current, but even here the cable was jerking and snapping and I feared we would drag. However, the bottom must have been good, for we did not move, and early next morning we started down to find the town of Piacoa, as we had sundry telegrams to send and it had the only telegraph station in the Delta.

Rounding a point I saw a great commotion in the river, which here narrowed down between two rocky, jutting points. It looked like rapids to me, and certainly the current was swift enough to be anything, but my Venezuelan passengers insisted that vessels passed through, so picking the smoothest looking place, I slipped her into it. The eddies were pretty fierce, and at times one could plainly see the water whirling around and then being violently thrown up again. We were running fast and it only took a very few minutes to get away from that dangerous place. I found out afterwards that there *is* a reef crossing the river, except for a narrow channel, and that we evidently came through.

Just below the reef was the little cano leading to Piacoa; so we anchored and sent up the boat with our telegrams, not being able to take the Min-Mo in on account of a field of grass and lilies lodged in the mouth of the cano.

Leaving in the course of an hour, we soon entered the Orinoco again, as many of these canos simply form loops from the main river, and at 4 o'clock turned into the Cano Imataca. Another half hour's run brought us in sight of the tall smokestack of the power house at Imataca, which, with its plume of black smoke, looked more like "home" to us than anything we had seen.

We tied up to the bank in front of the custom house, and the customs passengers having been landed and our papers examined, we were boarded by all the officials of the iron company, word having gone forth that there was a strange yacht in port. The sight of all these American and Canadian faces looked good to us, and the manager told us to go down and tie up to the company's wharf, where there was a landing stage. This we did, and when the whistles blew at 5 o'clock we held quite a reception, meeting a fine lot of men.

That evening we all dined with the manager; in fact, during our stay at Imataca, and on our subsequent visits, we were treated

MIN-MO ANCHORED OFF PIACOA, ORINOCO DELTA

THE BASIN AND LANDING AT PIACOA

with the greatest kindness and were shown over the mining plant, which is very extensive.

On Sunday we started down again, in company with the company's launch, bound for a village called Curiapo, about 30 miles below, where we hoped to find a guide to carry us to the coast through the maze of canos and islands in the lower delta. Curiapo is a town on stilts, the houses and walks being set on piles, as at high tide the water washes freely back and forth. From a sanitary standpoint this is a very good arrangement.

We found the customs officer to be a nice young fellow, and as it was just luncheon time we asked him to join us, which seemed to please him very much, and thereafter we were *amigos*. We all went ashore in the afternoon, met the Jefe Civil and his secretary, who spoke good United States, as well as a number of leading citizens, and altogether put in a very pleasant time.

Toward evening the Venezuelan ladies began to walk about; partly, no doubt, to have a look at the strangers, and we noted several very good-looking girls among them. However, etiquette does not seem to allow introductions here, so all we could do was to look and admire.

The launch that had accompanied us pulled out for Imataca about 11 o'clock, and the next day we ran down the river to procure an Indian guide. The Jefe Civil had given us a paper *ordering* the Indian to go with us, but on our arrival at his shack his woman told us he was away fishing. We waited all day for him to return. I think he saw the yacht, and thinking she was a Venezuelan gunboat took to the swamp. While waiting we bought a couple of dozen eggs, most of which were fresh, and a fine young macaw for 40 cents from a passing boat. We remained in this little cano all night, as it made a fine harbor, while just outside the current of the great river was hurrying to the sea, carrying quantities of trash, trees, grass fields, etc., along with it.

The following morning, no Indian having appeared, we concluded to try for another village below, so got away about 7.30, and after turning and twisting through innumerable canos, arrived at this other place about 11 o'clock and anchored. Here we saw our first *naked* Indian. He wore a string around his waist with a cloth hanging down in front and behind, and an old straw hat minus a crown—also a beautiful bead dog collar, with pendants hanging front and rear.

We bought some cocoanuts from the head man for 30 cents per dozen, and tried to buy a parrot or two, but the price was too high. We found a boy who spoke *Guarauno* and shipped him as interpreter. After lunch we got under way, having heard of another Indian who knew the part of the Delta of interest to us. About 3 o'clock we sighted his hut, ran in and anchored, and saw the man take to the bush. They are very shy of strangers, it seems. However, his women stood their ground, and the interpreter, landing, explained our errand. So after some calling the Indian showed up, and being convinced we were *Americanos* and would pay him real money, he came aboard and we ran on down the river and anchored in sight of the ocean.

The next day we put out to sea, having to run through a twisted channel having from 3 to 6 fathoms, and here our *practical*, or pilot, nearly put us ashore. But we backed off in time and felt out the channel, finally crossing the bank, or bar, and entering another labyrinth of canos, which brought us out to where we wished to stop. That night our anchorage was what one might call "exposed" with very little effort of imagination. On the west was the coast of Venezuela, while on the east Africa was the nearest land. I have laid in one-sided harbors before, but in none quite so extensive as that one.

The miles of shoal water off the Orinoco's mouths, beyond us, of course, kept off all sea, and the steady trades discouraged the mosquitoes, so except for a bit of rolling when the tide turned we were comfortable enough. I took this chance of refilling the water tanks, as the water was perfectly fresh and, though cloudy, was sweet and pure; no doubt one would find fresh water for miles out, as the Orinoco in flood must hold back the salt water.

We spent several days surveying the different channels and exploring the canos in this part of the Delta, and then ran back to Curiapo for provisions and orders, as we had left word to have any mail sent down. From here we made a number of trips of a few days each, running out and platting the streams. Once we went ashore on a sandy beach and were glad to stretch our legs. We carried our rifles, hoping for a shot, as our guide declared there were both tigers and peccaries on the island; however, we found nothing except where the latter had been rooting and the tracks of what may have been a wildcat.

One morning at daylight, one of the men called me, saying three ducks had just lit in a tree; so getting into the canoe the man paddled me in, and, as the ducks flew out, one gave me a chance and I got him. The other two disappeared up a small cano, so we paddled after them and jumped them out of the bush, giving me an opportunity of making a double. I was lucky enough to get both, so for two or three meals we had a change from the everlasting tinned meat.

We had returned our Indian guide safely to his family fireside, and, besides paying him well, sent a small box of biscuits, sugar, etc., and a large bunch of plantains to his women. This unheard-of treatment had its effect for instead of avoiding us and taking to the bush at the sight of the yacht, the Indians came freely out after that. We always made them a small present of biscuits, plantains, cigarettes or something of the kind. A few of them spoke some Spanish, and one fellow a few words of English.

On our last trip back up the river on our way to Imataca we were fairly held up by a fleet of their canoes, and when we stopped, fully 25 boarded us, while others hung on to the rail, chatting and laughing and showing the greatest friendliness. They asked me to go to their village, saying they had *lauras* (parrots) and *cinchorres* (hammocks) for sale. I am very sorry we did not go, but we had a rather nasty bit of navigation to get through before dark, so had to decline.

The following week was spent in short exploring trips to complete the survey of that part of the river. A lighter had in the meantime arrived at Imataca, bringing a fresh supply of gasolene and a fat bunch of mail; also news of an alleged revolution and orders from the Government to send in all explosives. As this, taken literally, would mean that the iron mines would have to

shut down, the manager left for the nearest telegraph station up the river to ascertain just how bad the situation might be, and we left for Bariema Point at the mouth of the river, having several days' work still do to on the south of the Delta.

The custom house for that section is just inside the mouth of the Amacura River, a small place called San José de Amacura, where we arrived about noon, after carefully feeling our way across the flats, hunting for the channel. We were told that on one side of the entrance there was a sunken island, and on the other a flat full of old stumps and logs. We were lucky enough the very first try to hit the deep channel, which was fairly straight; and after being boarded by the custom officers, all hands went ashore. We found San José to be a pretty little place with the usual church. The houses are facing the river and all along in front of them is quite a dyke. Each house has its own little bridge, the dirt thrown out from the ditch forming the promenade, and the banks of the ditch itself being full of trees of different sorts and flowers.

We took several photos of the place, but, unfortunately, all were bad. We had brought some money for the customs people from Imataca, so they were all very nice to us and we got considerable information from them, as well as a lot of fruit. We were also shown the spot where three weeks before a large snake had been shot; its length was given as being a little over fifteen *yards*. They said the skin was sent to Ciudad Bolivar.

We were anchored close to the mangroves just where the snake was killed, and I could not help wondering if its mate would come and swallow the boat!

We got under way from San José at 7 o'clock one morning and ran up the river to the town of Barima, on the line between Venezuela and British Guiana. We found the two custom houses side by side, only separated by a narrow stream, but the boundary line crossed the river at such an acute angle that, although our anchor was in Venezuela, the boat was floating in British waters on the flood tide.

We went ashore, taking our papers, and found that Barima was *dyked* to keep the water out, in much the same manner as San José. We were cordially received by the General's secretary, in the absence of the General, who had gone on up the river, and spent a couple of hours very pleasantly. I found that the General's wife could speak a little English; and as the other members of the party could speak Spanish, I rather devoted myself to her and asked her to bring the other ladies out aboard to afternoon tea.

When they appeared on the little jetty I sent one of the men in the canoe to bring them off, telling him to only take two at a time. However, he let *three* in the canoe, and as the fourth, who was a very big woman, came down the ladder, she stepped on the gunwale, with the result of instantly capsizing the whole business, and for a moment it looked as if there might be a tragedy, as the water was very deep. The women all managed to hang on to the ladder and crawled up on the wharf. Fortunately, they took it in very good part, and after getting dry clothes tried it again in a larger boat. So we had our tea, after all.

The General arrived after dark, so after transacting our business with him and bidding farewell to the ladies we started down the river at 2 P. M. the next day. This stream was absolutely deserted, except in the vicinity of Barima, scarcely even a bird to be seen, let alone people. It was just plain swamp for miles and miles.

After having a look around and obtaining some information about the coast to the southeast, we left for San José again, arriving in the middle of a tremendous downpour of rain.

A custom house man from here wanted to go to Imataca, so, of course, I was glad to give him passage. After lunch we started off, bound up the Orinoco on our way home, as our work was practically finished.

Shortly afterwards, while following the course shown on my chart, I fancied the water was shoaling, so began sounding with the lead, and getting less water each cast I tried first to port and then to starboard, and finally ran aground, the channel having evidently shifted. As the boat was bumping on the hard sand with every sea, I was very anxious and really had no idea as to which direction to go to find better water. After backing and going ahead again several times I got her afloat again. Just then another tremendous rainstorm came along, shutting out everything. As we had eight feet I anchored, to wait for the squall to pass.

It blew over in an hour, and I then saw a steamship coming up the river. Knowing she was in charge of a pilot, the brilliant thought occurred to me that if I could get out of the pocket we were in I could follow her; we hurriedly got the anchor aboard and fortunately found the same narrow channel by which we had come in, and so met the ship, which proved to be the Wolf, of London. Just before meeting her, she swung off to starboard sharply, crossing the river nearly at a right angle; so I fell into her wake, about one-quarter mile astern, and followed her until we were in a part of the river I knew. Then, as night was coming on, I called for full speed and, passing her, ran up to our little Indian cano, where we anchored just at dark.

We arrived at Imataca next afternoon and tied up to the dock in our old place, where we found the Wolf preparing to load a cargo of iron ore. The captain came on board, having, as he said, a desire to see the little boat that passed him the day before.

The people at Imataca did everything possible to make our visit pleasant, but after filling all our tanks and extra drums with gasolene we got under way one morning, bound upstream to the junction of the Orinoco and the Manamo, and so home.

Just outside of Piacoa was the bad reef I mentioned crossing when coming down, but I had better information this time and carried the boat right across under the north bank before I headed up. Here the current was running very swiftly, but was free from eddies and whirlpools. Yet at times we were almost stationary, though the engine was hooked up to the last notch. However, by giving her a slight sheer first one way and then another, we finally got through and turned into the Manamo about noon. Here we had the current to help us and made good time, and shortly after, finding a comparatively shoal spot out of the current, we anchored for the night, out of range of the mosquitoes and had a comfortable night's sleep.

We were off early next morning, arriving at Tucapita at 8.30, where we had to stop to get our papers for Pedernalis; but as we were anxious to get back, our stay was very short, and in an hour we were again on our way. We saw a lot of big red monkeys in the trees close to the water: a couple of females had little ones in their arms, but they seemed just as active as the unencumbered ones in dodging away when I blew the whistle. They say these monkeys are excellent eating. Personally, I would just as soon try to eat a baby, for they are horribly human in appearance. This particular species is known as the howling monkey, owing to the roaring noise made by the old males.

Sometimes, when at anchor in the river, we would hear a growling, roaring sound in the swamp; it is made by the big red baboons, probably expressing their opinion of the mosquitoes, which are certainly ferocious at times, though I have seen them just as bad in other places. The most annoying insect is a tiny midge, which is small enough to pass through any kind of net and can raise a small, hard lump wherever it bites.

We had a long day's run and anchored at the end of a reedy island about sundown. Conkling and one of the others went off in the canoe to try and get some red birds (scarlet ibis), a lot of which were sitting on a dead tree. They had no success; in fact, very little powder was burned on the trip.

The following morning we arrived at Pedernalis at 9.30 A. M., and the next day got an early start across the Gulf and arrived at Guanoco at 6 o'clock, having been gone just a month and three days.

The little boat had behaved beautifully throughout the trip and had carried the burgee of the Chesapeake Bay Yacht Club to within some 400 miles of the equator, the farthest south it has been flown.

Though we were much exposed, and some of us wet every day, we were all perfectly well. Not a case of sickness of any kind did we have, though one would think the swamps would prove a breeding place for malaria.

(*To be continued*)

If Not Gasolene, What?

The steps that are being taken to provide a substitute for fuel of internal-combustion engines on account of the soaring price of gasolene

By J. EARL CLAUSON

I OVERHEARD Charlie Knowles holding forth to an interested audience in the lee of a weather-beaten old oyster house. It was a windy day in late winter, too early to put a boat in commission, but highly seasonable for marine conversation. Charlie's theme was achievement with a gasolene engine.

"I can run her on denatured alcohol," he was saying. "I came home once on the gas in my lighting tanks; and one day last October, when Sol Whaley and I had been out to the Clumps, we brought her up to the dock on what was left of a quart of rum Sol had taken along in case a blackfish bit him instead of the hook."

This is merely a small sample of his discourse, snipped off to show the weave of the goods. I have a ghost of a recollection that he mentioned also Florida Water, cigar stubs, and finely chopped alfalfa as having supplied him with motive power. About the last, however, I cannot be positive, for which reason I refrain from recommending it unreservedly to boat owners.

In any event, his narrative was a remarkable and deserved tribute to the adaptability of the internal combustion engine which, having been designed for an exclusive diet of gasolene, will nevertheless, when need arises, buckle down to its work on a quite different food. For it is true that a gasolene engine will run—sometimes—on denatured alcohol, and possibly will yield results on high-proof liquors. But these are not ideal fuels. Even with gasolene at 25 cents a gallon retail in the United States and at 37 cents in England, vintage champagne will still be found more expensive per mile of operation, and the great problem remains unsolved.

All over the world is heard the question I have used as a title to this article—the question the soaring price of gasolene raises. That vain anticipations be not aroused, I hasten to state that the conclusive and final answer has not yet been found. On the other hand, I do propose in what follows to give a brief survey of the steps that are being taken, here and abroad, toward dissipating the gloom which enshrouds the owners of internal combustion engines; to point out, like the man with the uplifted finger, that there is hope, and perhaps to make a suggestion which, pending a revolutionary discovery, has already brought relief in some cases, and may in yours. Beyond that point patience must be the life belt.

Aside from trade profits, which might readily accrue beyond the dreams of avarice, two cash prizes await the man who invents a liquid fuel which can be substituted for gasolene at a reasonable price. One is offered by the Society of Motor Manufacturers and Traders of England. This is the sum of two thousand pounds, approximately ten thousand dollars, for a home-produced fuel which can be made commercially as a substitute for "petrol," by which arbitrary name our British cousins designate gasolene.

The other and greater prize, which at the time of writing is being collected from the recognized automobile societies of the world, was the suggestion of the Chevalier Rene de Knejff, a Frenchman. He pointed out to the International Federation of Recognized Automobile Clubs at Paris a year ago, that hard times were ahead for motorists by water, land and air unless speedy action were taken.

Acting on the hint, the Federation decided to give all probable beneficiaries an opportunity to share in the raising of a fund of not less than fifty thousand dollars, which is likely in the summing up to reach one hundred thousand dollars, to be paid to the inventor of a substitute for gasolene. An organizing committee was appointed to frame rules governing the award, and before these words are in type the fund will be in bank ready for the lucky individual who can match up to prescribed conditions.

While these two prizes alone total a comfortable fortune, they pale into insignificance beside the rewards which will result from a monopoly of traffic in a gasolene substitute. They are unimportant, also, in comparison with the sums which will be expended, and already have been disbursed in preliminary experiments. The great oil companies themselves are in the race, the manufacturers of carburetors are straining every nerve, and hundreds of laboratories reek with the fumes of hundreds of experiments.

The outcome is not in doubt. A substitute for gasolene will be found, it will be far cheaper than gasolene is to-day, and very likely cheaper than it ever has been. Moreover, in the opinion of many men competent to speak, it will not be a petroleum product.

One tremendous difficulty in the path of speedy relief is the necessity of finding a fuel adaptable to existing engines which were constructed primarily for gasolene. Some four hundred thousand motor boats and close to a million automobiles in the United States and Canada forbid the thought of a liquid which will require considerable changes in present mechanism. Yet staring that fact in the face is the other, that a gasolene engine, accommodating and cheerful though it is, has not generally shown one hundred per cent efficiency on any fuel in which gasolene did not figure importantly.

Some results have been obtained, nevertheless. Among the number in which high-priced gasolene is reduced to a minimum may be mentioned the fuel invented by G. E. Heyl and T. Thorne Baker of England. In its composition they combine gasolene, benzoline, kerosene and alcohol. The basic principle of their invention, they explain, is the discovery of a chemical means of raising the temperature of the vapor and air at the moment of explosion, securing more nearly perfect combustion than has hitherto been obtained.

Absence of smell is one of the benefits claimed for this discovery, and a more important one is economy. Mr. Heyl claims that the cost of manufacture is not more than one-eightieth of a cent per gallon above the cost of the raw material and savings of from 36 to 90 per cent are effected by the fuel. Best of all, no change in carburetors save the reduction of the inlet channel one-half is necessary.

Boat owners will be more interested than automobilists in the news of another liquid fuel (of secret composition) for the reason that its employment calls for a generator weighing from sixty to eighty pounds.

Thus far very little information regarding the invention has been given out. We are told that it has double the efficiency of gasolene, gallon for gallon, that it would return its makers a big profit at twenty cents a gallon—which on the double efficiency reckoning would equal ten cent gasolene—and that if certain governmental restrictions on the manufacture of wood alcohol were removed it could be made to sell as low as seven or eight cents. Which, if true, means that the motorists' millennium is at hand.

It is further claimed that automobiles have been operated on this fuel for about two years without showing carbonization or deposit in cylinders. In fact, the fuel's cleanliness amounts to a defect, necessitating the use of more oil than with gasolene. But nobody who has suffered from spark plug troubles will be worried and get wrinkles by that statement.

Charlie Knowles's assertion that he has operated his boat on his lighting tanks may be accepted without reserve. Automobilists have done the same thing over and over again. Is it worth while, then, to look to gas for a solution of the fuel problem?

The English, who are even more deeply interested than ourselves in reducing the price of fuel, for the sufficient reason that it costs them about fifty per cent more, have been carrying on a series of experiments in London with acetylene. No large successes have thus far been announced. There is no difficulty about

producing acetylene cheaply, but anyone acquainted with the properties of the gas will quickly perceive obstacles to its adoption as motive fuel.

Somewhat different are the difficulties in the path of adopting our own resources of natural gas. Yet certain speculative experiments which have been conducted possess their interest. They were carried on at a time when gasolene was selling for 13½ cents a gallon and gas at 30 cents per thousand cubic feet.

Careful tests were made on a standard, forty-horsepower, motor. From the viewpoint of economy the results were wholly satisfactory—astonishingly so. They showed a cost for gas per hour of only one-sixth that of gasolene. To the experimenters the plan of nation-wide use of tanked natural gas instantly seemed feasible.

Two serious drawbacks to the acceptance of such a scheme are the difficulty of distribution, and the diminishing supply of gas. The latter is the weightier. It would be possible to establish gas stations thoroughout the country, where yachtsmen and automobilists could obtain freshly filled tanks; the universal distribution of gasolene demonstrates that. On the other hand, the expense of establishing such a system would cut heavily into the economy of the plan. Outbalancing this objection, however, is the fact that the reservoirs of natural gas thus far discovered are exhaustible. This condition brings us face to face once more with the situation which has contributed to the troubles of to-day. As one experimenter in the field of a new fuel put it to me:

"While we are about it, we might as well settle the question finally instead of contenting ourselves with a temporary relief and having to go all over the ground again. If we get a satisfactory kerosene carburetor, which some think will be the eventual answer, it is inevitable that immediately the price of kerosene will rise, as that of gasolene has. So we must look for a permanent remedy outside of the field of petroleum distillants."

In that remark is expressed the opinion of many learned and thoughtful men who are engaged in the world-wide hunt for a gasolene substitute. Something which will take the motorist out from under the shadow of the oil companies; something which can be produced cheaply; something at once volatile and possessed of the heat units which make for power—that describes the desideratum. Is it too much to hope for?

My own belief, and that of many gas engine experts with whom I have talked, is that relief is close at hand. The need is too great. the prize too alluring, to permit of long delay.

As to what lines of development the production of this fuel will follow there is a wide divergence of opinion. There is, for instance, the idea of S. C. de Ferranti, expressed in the course of the James Watt anniversary lecture at Greenock, Scotland. Mr. de Ferranti placed himself on record as believing it probable that in time all the coal now used for firing large units will be gasified, and the by-products recovered. This, he points out, would result in the recovery of fertilizer, ten oils suitable for naval purposes, and benzole for driving small motors. In gasifying coal rather than in the production of alcohol on a large scale lies the relief demanded, he says.

Other engineers with an equal right to express their views look for salvation in compounds, probably of vegetable origin, which totally disregard petroleum. The definition, while suggestive of wood alcohol, may in practice be something totally different. It must be remembered that carbon is essential for its heat-producing qualities: but vegetable matter is largely carbon, and some genius may hit upon a scheme for utilizing to profit the sage brush of the western plains, which conceivably might yield a practically infinite supply of fuel.

Still others look for a synthetic gasolene. Laboratory rubber has been produced, they say; why not laboratory fuel? Nor, indeed, is there any insuperable obstacle to such a feat—in theory. The great trouble with synthetic manufacture has always been that it was more expensive than natural processes, and before synthetic gasolene becomes a commercial possibility a good deal of gray matter will have been expended.

Of carburetor experiments there is, of course, no end. They aim at two great ends—economy in gasolene and utilization of petroleum distillants of lower specific gravity than gasolene. The Association Général Automobile of France is carrying on at the time of writing a carburetor competition to meet the rising price of gasolene, and the ingenious Gaul may possibly evolve something which will largely benefit the entire world.

But as an expert quoted above remarks, while the kerosene carburetor is likely to be realized ere long—is, indeed, already on the market, but not widely popular—there looms always ahead of it the likelihood of a jump in kerosene prices as soon as that liquid comes into general demand. And there is small satisfaction in passing from one tentacle of an octopus, only to be seized by another. In the long run it will be more profitable to hammer away at the problem until a lasting solution is achieved. Meanwhile there are other temporary reliefs.

One has recently been undertaken by the Petrol Users' and Traders' Society of England, from which this country may take a chapter. It is nothing more or less than a coöperative company of gasolene users to supply themselves, in accordance with the rules of the popular modern game of cutting out the middleman.

It works in this way: Joining the P. U. and T. S., you buy one or more shares of stock at five dollars a share. For each share you are entitled to purchase 20 gallons of gasolene a year at a maximum price of twenty-two cents plus the duty, which brings it up to twenty-seven cents. While that sounds high to American ears, it is ten cents a gallon under the ruling price in England.

No member other than a registered society, such as a motor boat or automobile club, may own more than two hundred shares of stock. Individuals may, however, purchase up to that number.

Retailers all over the country will act as the society's agents. They will be supplied with gasolene at a price which will enable them to obtain the usual trade margin, and as long as they keep enough on hand to supply members (distinguishable by badges) they may sell to the public. Complete arrangements for distribution have been made.

The company will obtain its fuel direct from a company which owns wells in Roumania. On the committee of management are the admiral and vice-commodore, Sir William Kennedy and Dr. Martin Smart, of the British Motor Boat Club.

The company's estimates are interesting. It is computed that with gasolene retailing at 37 cents, each holder of a five-dollar share will save at least $2.80 on every 20 gallons used, in addition to dividends. The net profit of the undertaking is to be applied to a maximum five per cent dividend, and any remaining balance distributed every six months among members in proportion to the amount of fuel used. If the venture turns out as expected this distribution should reach ten per cent, which means that every member will benefit nearly three dollars for every five dollars invested.

But such an organization as this demands more time and work than the average American business man can afford to give it. Is there, then, no readier relief, pending the great discovery?

I hinted at the beginning of this article that there might be. Now that I come to the point of suggesting it certain apprehensions seize me lest, trying it, you should meet with disappointment. I advance it, therefore, as another's experience which may aid you.

A fast motor boat in Chicago, with a 300-horsepower engine, had a successful season last year with a combination fuel, which was considerably cheaper than gasolene at the market prices of 1912. Its tanks were filled with a mixture of 70 per cent kerosene, 29 per cent 72 s. g. gasolene, and one per cent ether. On this it won races. Seventy-two gasolene may be obtained at a rather higher price than the ordinary fuel. A well-known type of carburetor designed for vaporizing straight gasolene was used and worked perfectly with this mixture.

The same carburetor was tried late in 1912 with a boat in Hudson river races in which kerosene and trade gasolene, half and half, were used successfully. On this a race from New York to Poughkeepsie was won, and the statement is made by a man interested in the boat that any good carburetor will handle the fuel, slight adjustments being needed. No unusual trouble with carbonization was experienced. With kerosene at 10 cents and gasolene at 25 a gallon of the mixed fuel costs about 17 cents.

An Unusual One-Design Dory Class for the Great Lakes

WHEN the Inter-Lake Yachting Association holds its annual spring meeting in Toledo, Ohio, some time in March, the delegates will be asked by the Detroit Yacht Club to adopt a new sailing class to be known as the Swampscott One-Design Dory. The class already has received the endorsement of the Detroit River Yachting Association.

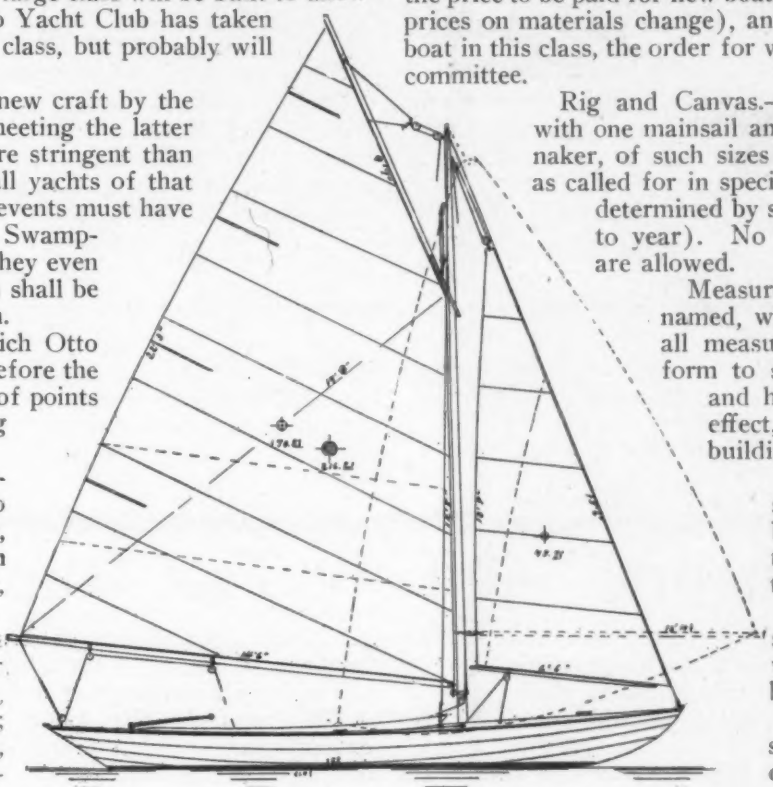
Blue-prints of the new craft, which actually originated with Geo. L. Chaisson, of Swampscott, Mass., have been placed in the hands of members of other yacht clubs along the Great Lakes and Detroit River, in the hopes that a large class will be built to allow of inter-club racing. The Toledo Yacht Club has taken no action regarding the proposed class, but probably will do so in the near future

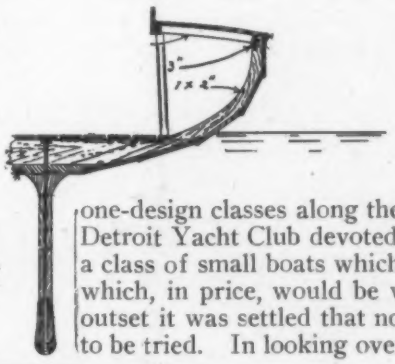
The restrictions placed on the new craft by the Detroit River Association, at a meeting the latter part of December, are rather more stringent than usual, in that they provide that all yachts of that class to be entered in Inter-Lake events must have been built by the same builder at Swampscott, at exactly the same price. They even designate the kind of paint which shall be used on deck, topsides and bottom.

The Detroit committee, of which Otto Barthel is chairman, will appear before the I. L. Y. A. to urge "57 varieties" of points in favor of the new class, among which are the following:

A safe and dry sea boat; a perfectly balanced boat, easy to handle in bad weather; a fast, clean-lined craft, with good room below deck, and a cheap boat, with a minimum cost for upkeep.

The dimensions of the craft as adopted by the Detroit River Association are: Length over all, 21 feet; water line, 15 feet; beam, extreme, 6 feet; beam, water line, 4 feet 10 inches; overhang forward, 3 feet 6 inches, overhang aft, 2 feet 6 inches; free-board, bow, 27 inches; free-board, stern, 18 inches; free-board least, 16 inches; draft, extreme, 3 feet; cockpit opening, 7 feet 6 inches by 2 feet 9 inches; cockpit floor, 10 feet by 4 feet; rig, sloop; total sail area, 216 square feet.





These boats are to be equipped with solid spars, a molded lead keel of 300 pounds, and are to use spinnakers, thus giving the crew of two men a taste of real racing. No other light canvas will be used. The boats are to be painted only—no pot-lead allowed. The plans show a clean-lined boat with an easy entrance and no drag or suction aft; good bearing surfaces, easy bilges and pleasing sheer.

The principal restrictions (besides those already given) of the class, as adopted by the Detroit Yacht Club, follow:

Builder.—These boats shall be built by G. L. Chaisson, Swampscott, Mass., according to the drawings and specifications furnished, and shall be restricted to said builder, at a stated price for a period of five years.

Cost of Boats.—The price of these boats, complete, without canvas, shall be not to exceed $215 f. o. b. cars, Swampscott, Mass., for the season of 1914 (thereafter a building committee composed of one delegate from each club shall determine what the price to be paid for new boats shall be, according as the market prices on materials change), and in no case shall anyone enter a boat in this class, the order for which has not been O. K.'d by said committee.

Rig and Canvas.—These boats shall be equipped with one mainsail and two sizes of jibs and one spinnaker, of such sizes and shapes and of such material as called for in specifications (the price of same to be determined by said building committee from year to year). No other light canvas or other sails are allowed.

Measurer.—An official measurer shall be named, whose duty it shall be to check off all measurements and see that they conform to specifications in every particular, and he shall issue a certificate to that effect, signed, and kept on record by the building committee.

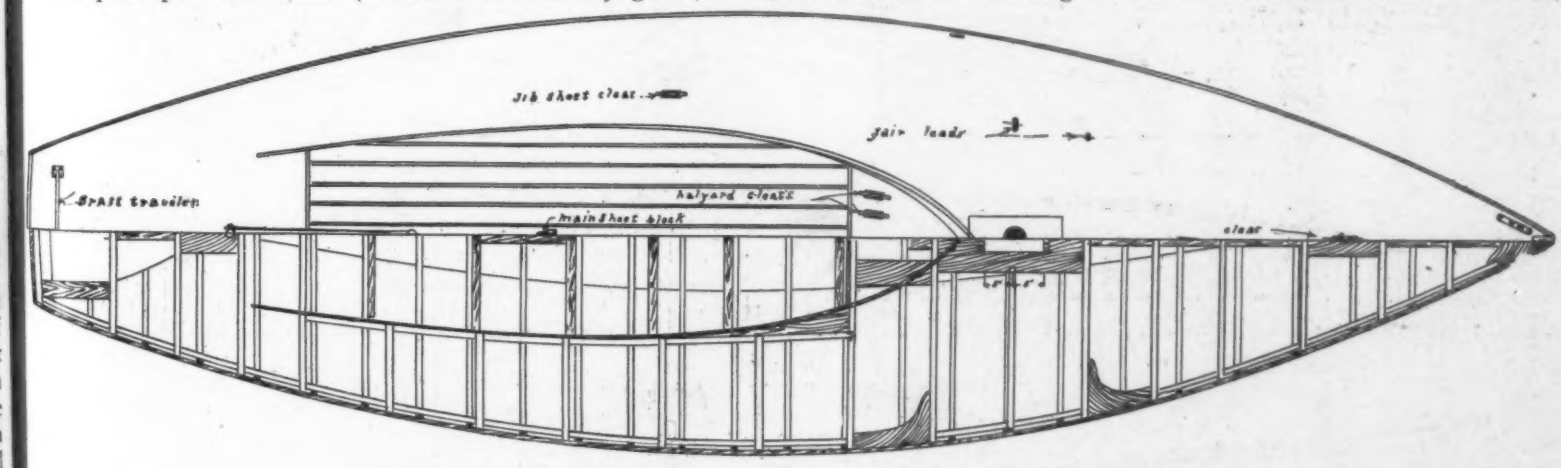
Ownership.—Boats in this class shall be owned and sailed by members of some recognized club of the Inter-Lake Yachting Association.

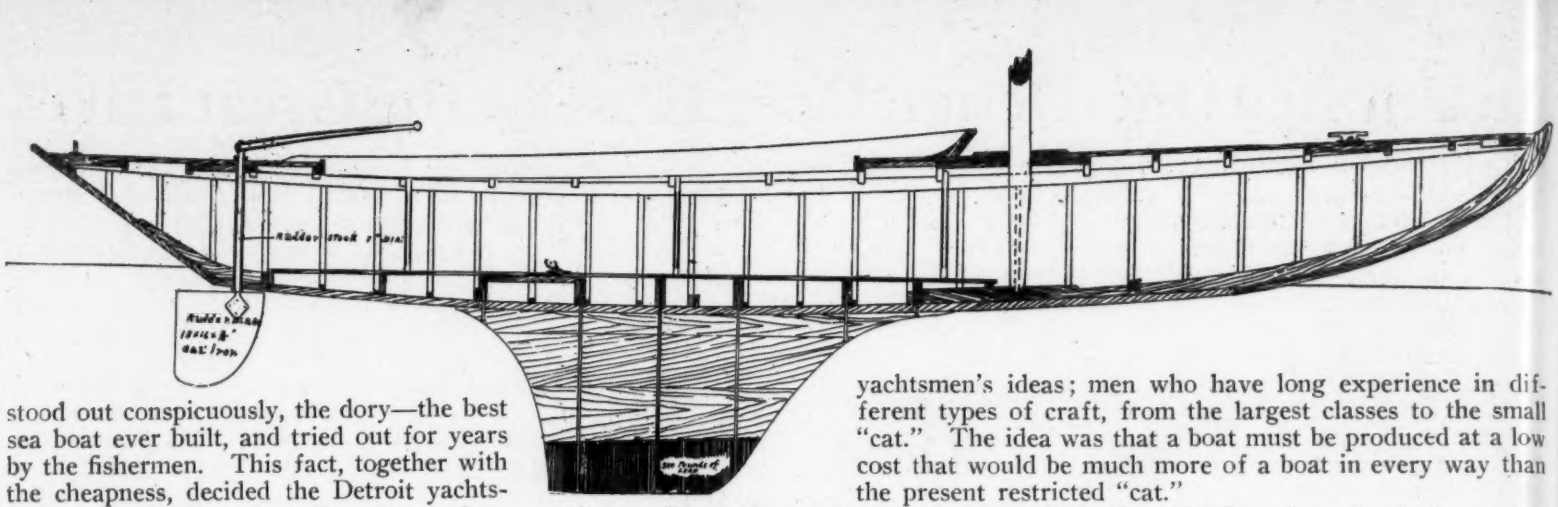
Crew.—The crew of this class shall be limited to two, one of whom shall be the owner of the boat.

Hulls.—The hulls in this class shall be of lap-strake construction only.

This boat will be a craft that will give everyone an equal chance, and the races of the future will be sure tests of seamanship and sailing, rather than ones in which the higher-priced craft always finishes in front.

With the success of many of the one-design classes along the Atlantic Coast, a few members of the Detroit Yacht Club devoted their time and attention to developing a class of small boats which would not only be a real boat, but one which, in price, would be within the reach of everyone. At the outset it was settled that no new and expensive experiments were to be tried. In looking over the successful classes of the East one

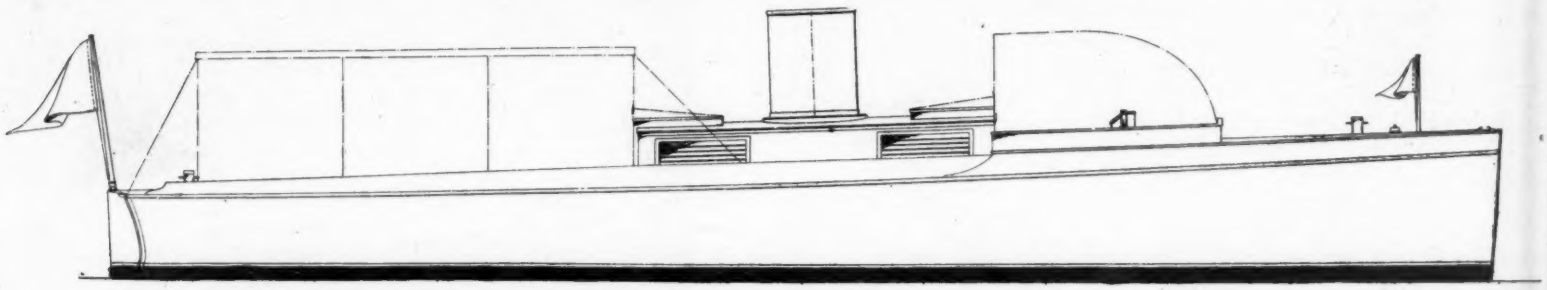




stood out conspicuously, the dory—the best sea boat ever built, and tried out for years by the fishermen. This fact, together with the cheapness, decided the Detroit yachtsmen to work along dory lines to produce a sane, sensible and popular class, of whose ability there would be no question, so that the experienced man, as well as the novice, can have a real boat at low cost.

The drawings decided on are the result of some half dozen yachtsmen's ideas; men who have long experience in different types of craft, from the largest classes to the small "cat." The idea was that a boat must be produced at a low cost that would be much more of a boat in every way than the present restricted "cat."

Seven orders have been placed by Detroiters for dories, as follows: Max Horton, Charles LeBeau, Arthur Born, Charles Phelps, Harry Miller, C. J. Lynch and Paul Noacre. It is expected that at least ten orders will be placed before it is too late to get the boats to Detroit for the summer.

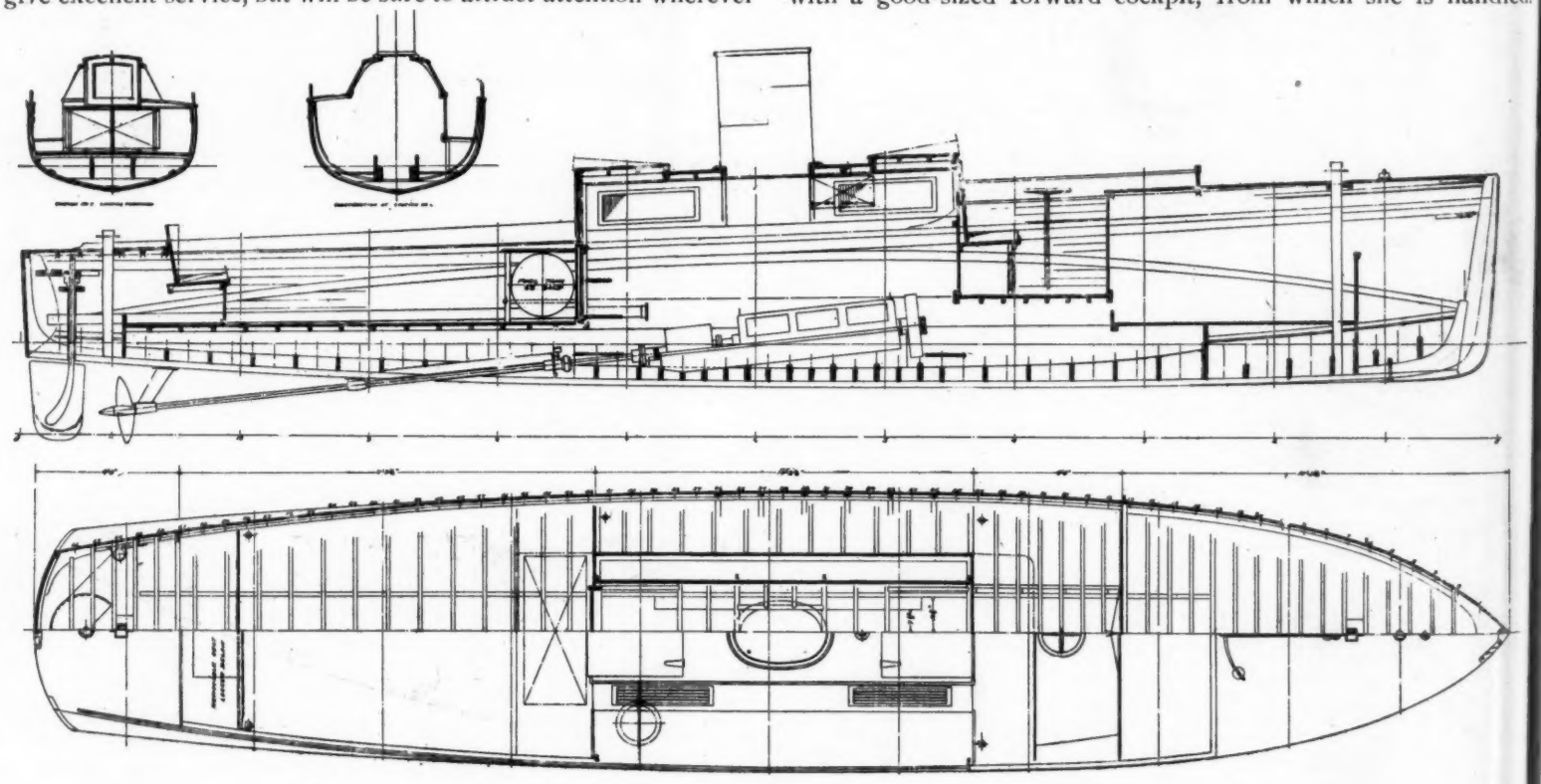


A "Snappy" 40-Foot Fast Runabout

A VERY unusual and interesting type of fast runabout has recently been designed by Swasey, Raymond & Page, of Boston, Mass., for Mr. Bernhard Zahn, of New York. The boat was built at West Lynn, Mass., and the plans are published herewith.

In meeting the requirements of a fast runabout with more than the usual speed and accommodation, the designers have turned out a very handsome and "snappy" little boat that should not only give excellent service, but will be sure to attract attention wherever she is seen. In appearance she resembles more the type of fast steam speed launch of some years ago, and the small stack over her midship house heightens this effect.

The dimensions of this little boat are: Length over all 40 feet, extreme beam 7 feet 7 inches, draft of hull 14 inches; the stem and stern are plumb; the sheer is straight, and she has a small house amidship, with sides sloping inwards and upwards, protecting the engine. Forward, the boat is of the raised-deck type, with a good-sized forward cockpit, from which she is handled.

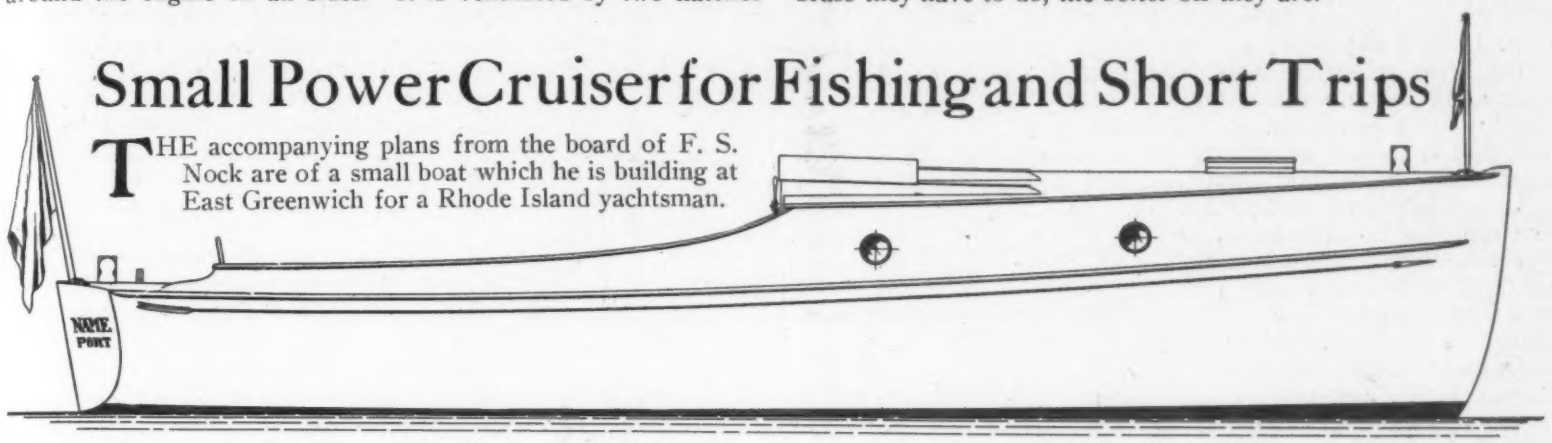


Abaft the house over the engine there is another large cockpit, with room for a good-sized party. At the forward end of this, along the engine-room bulkhead, is a 65-gallon fuel tank. These two cockpits are connected by a passageway on the port side between the engine house and the rail. This enclosed engine room gives protection to a 90-horsepower, 6-cylinder, 4-cycle motor. The compartment is large enough to give plenty of room to work around the engine on all sides. It is ventilated by two hatches and a dummy stack. The speed is estimated at 20 miles an hour.

The construction is very light, and yet strong. The boat will be painted a light grey above the water line, with a light green below and a white stripe at the water line. Boat owners are more and more coming to a sensible idea in the matter of painting and bright work, realizing that a boat is used for pleasure, and not for work, and that the less cleaning and polishing of varnished surfaces and brass they have to do, the better off they are.

Small Power Cruiser for Fishing and Short Trips

THE accompanying plans from the board of F. S. Nock are of a small boat which he is building at East Greenwich for a Rhode Island yachtsman.



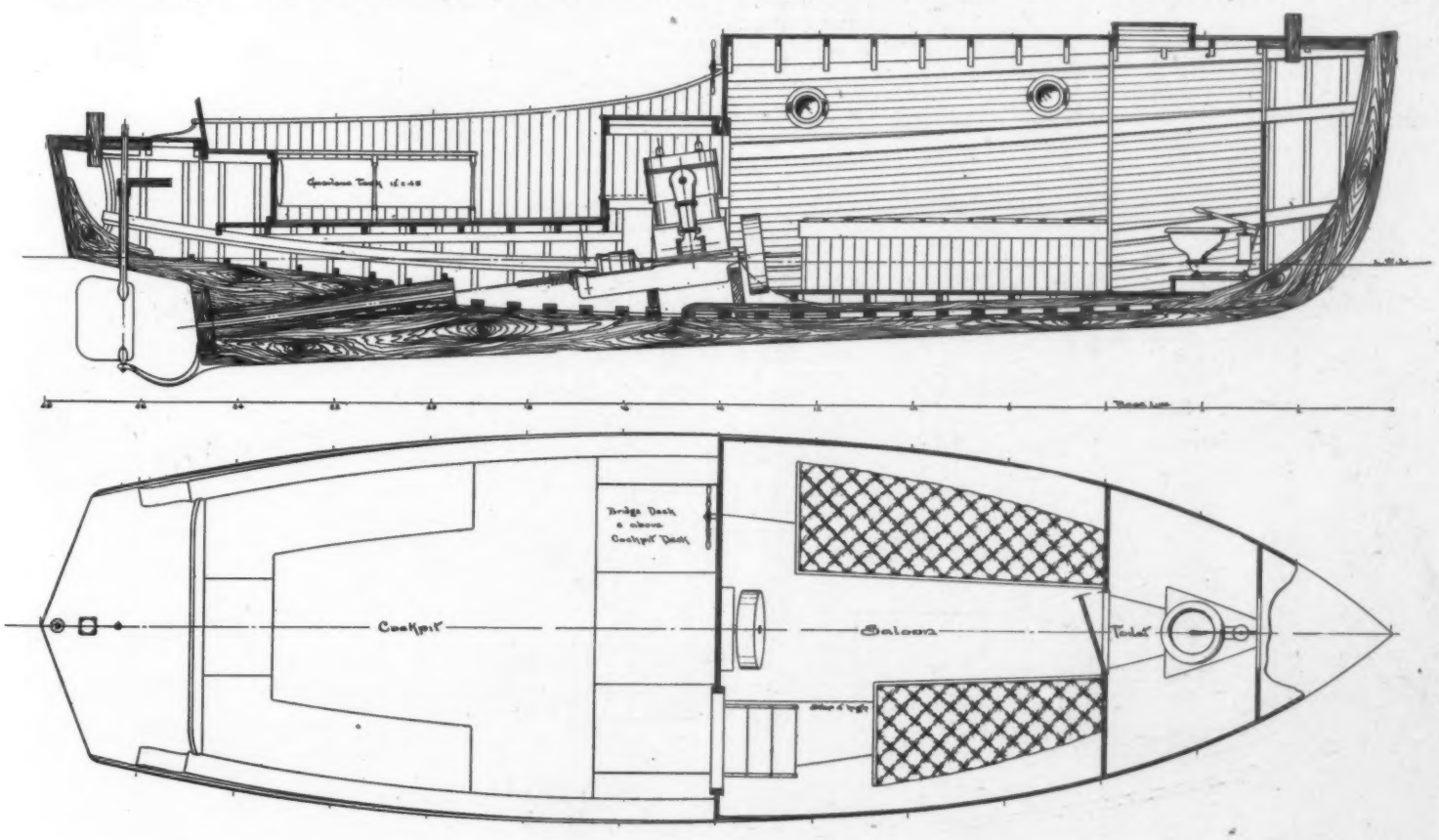
The requirements put up to the designer for this craft were for a day boat suitable for short fishing trips, with a small cabin forward for shelter. She will be moored where the water is nearly always disturbed, and, for this reason, not only was considerable power required, but the boat had to be seaworthy. She was built so as to handle easily in choppy water.

The overall length is 28 feet; breadth extreme, 8 feet; draft, 2 feet 4 inches. The construction is fairly heavy for a craft of this type. The keel is sided 3½ inches; frame, 1½ by 1½ inches, spaced 9 inches center to center, except in the way of the engine bed, where all frames are doubled. The clamps and stringers are of yellow pine with a sectional area of 6 inches. The planking is of yellow pine, finished ⅞-inch thick.

The cabin, though short, affords ample protection in bad weather, and is fitted with more conveniences than are shown on the plans. The cockpit will be covered with a pipe frame awning with "dodger" and weather cloths to keep out the spray. There is also a rail along the center of the house for protection to the man going forward to handle the anchor.

The power plant is ample for a boat of this size, being a four-cycle, two-cylinder, 5½-inch by 6-inch engine, turning a propeller 24 inches diameter, 30 inches pitch. The flywheel of the engine projects into the cabin, and the cylinders are housed under the bridge deck. On either side of the housing there is a hatch which can be removed to get at either side of the base or reverse gear. The gasolene tanks are under the cockpit seats.

The general finish of the boat is plain, and for the purpose for which it was intended this will undoubtedly be an ideal boat.



A Small Pole-Masted Schooner

A HANDSOME little schooner of what is at present a most popular type and size is shown in the accompanying plans, which are from the boards of Gielow & Orr, of New York.

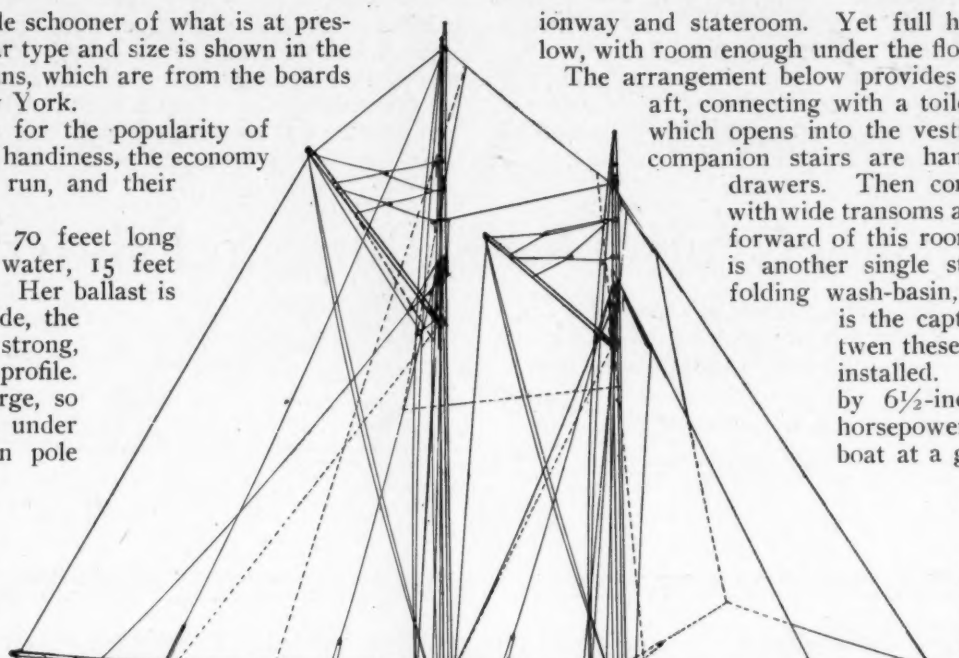
The points that make for the popularity of boats of this size are their handiness, the economy with which they can be run, and their general all-around ability.

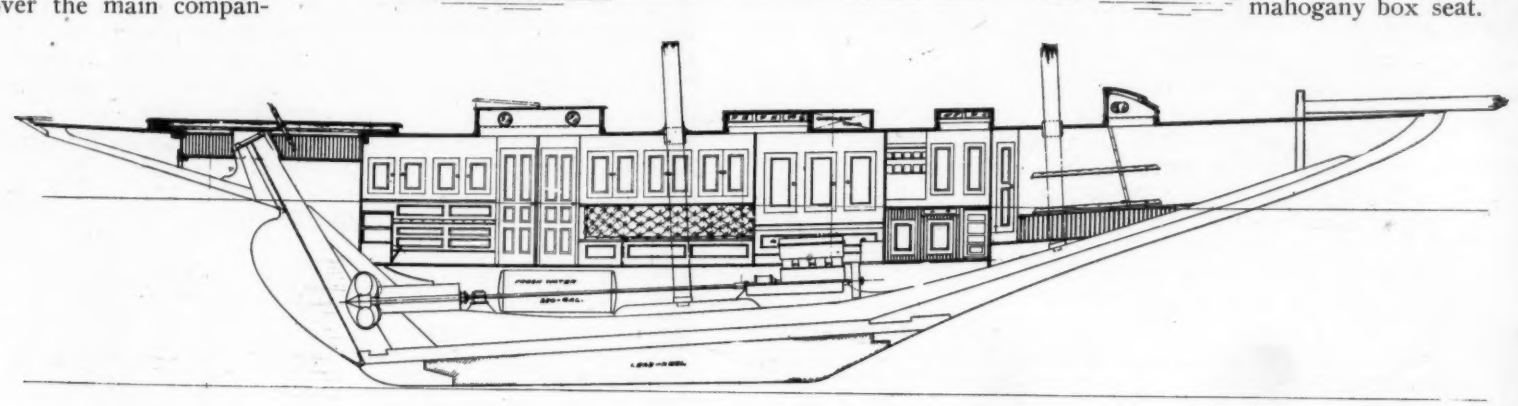
This little schooner is 70 feeet long overall, 49 feet on the water, 15 feet breadth and 9 feet draft. Her ballast is lead, and is carried outside, the construction being very strong, as shown in the inboard profile. The sail plan is fairly large, so that she should be fast under sail, yet it is carried on pole masts, according to the prevailing tendency, the mainmast being high enough to set a topsail on.

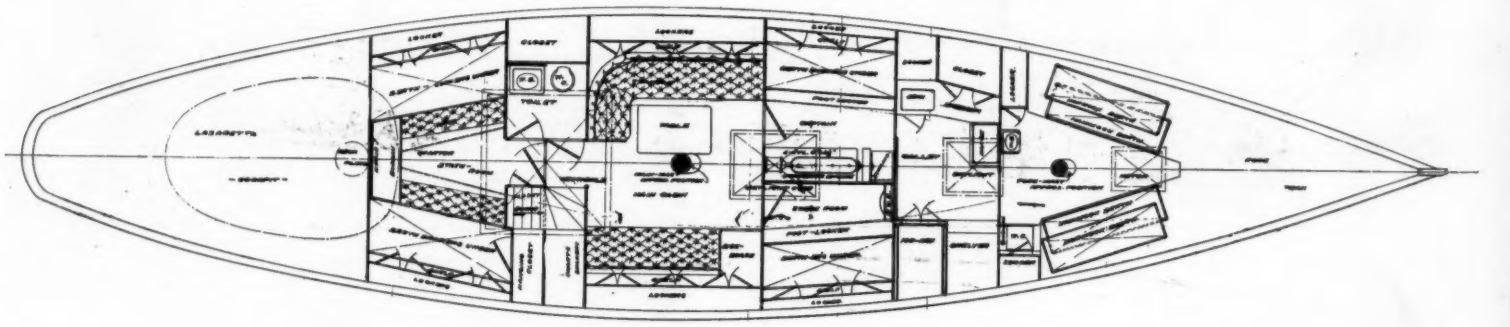
The boat is flush decked throughout, with an oval steering cockpit aft, with cushioned seats around the sides, while there is a small house over the main companionway and stateroom. Yet full headroom is obtained below, with room enough under the floors for water tanks.

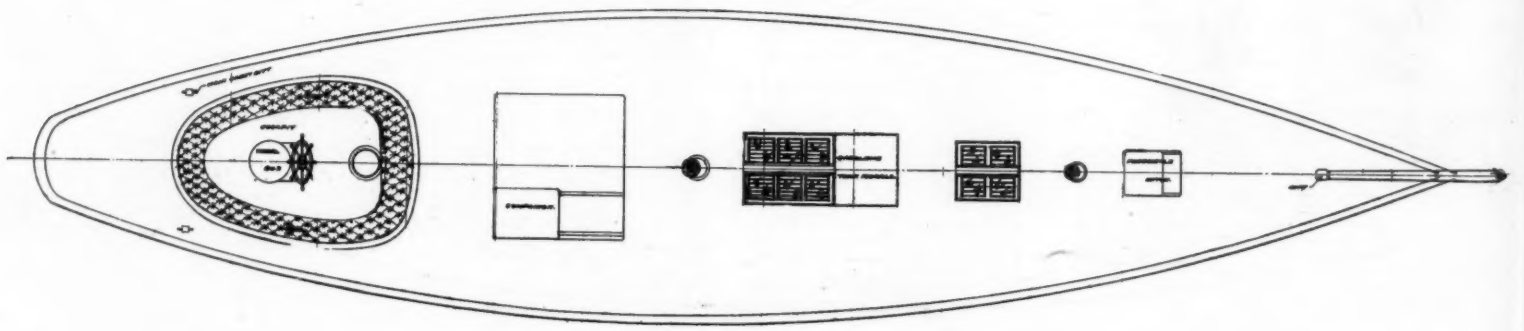
The arrangement below provides for a double stateroom aft, connecting with a toilet room on the port side which opens into the vestibule. Alongside of the companion stairs are hanging lockers and chart drawers. Then comes a large main cabin, with wide transoms and lockers back of them; forward of this room, on the starboard side, is another single stateroom, with drawers, folding wash-basin, etc. On the port side is the captain's stateroom, and betwen these two rooms the engine is installed. It is a 4-cylinder, 5-inch by 6½-inch motor, of 24 rated horsepower, and should drive the boat at a good speed under power. There is also a dynamo in this compartment.

Forward of these rooms is the galley, the full width of the vessel, with range, large ice-box and all the conveniences. The forecastle has four pipe berths, toilet, clothes locker, etc. The gasolene tank is on deck under a mahogany box seat.



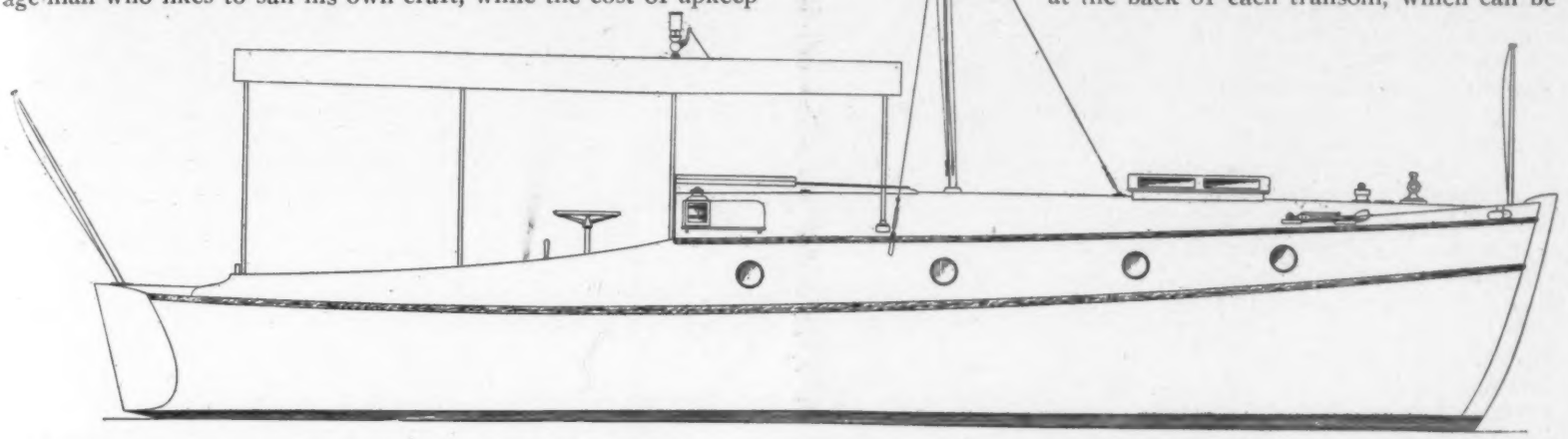






A 30-Foot Raised Deck Power Cruiser

ONE of the most popular sizes of power cruisers is a boat of about 30 feet long that can be handled easily by one man, is seaworthy, has a good sized cockpit for day use, and has also sufficient cabin accommodation to give comfortable cruising quarters for three or four persons. This size of boat is one in which the first cost is moderate and within the means of the average man who likes to sail his own craft, while the cost of upkeep is insignificant and running expenses are small.



The plans of the 30-footer which we publish here from the board of Mr. R. M. Haddock, of White Plains, N. Y., are of a little boat that amply meets all of these requirements. The general dimensions are: Length overall, 30 feet; length waterline, 27 feet 4 inches; beam, 7 feet 10 inches, and draft, 2 feet 6 inches. She has a raking stem, a rounded transom stern, good dead rise, and considerable flare forward, so that she makes a very able sea boat, and, at the same time, one that is easy to drive. She should answer very well for use on exposed waters.

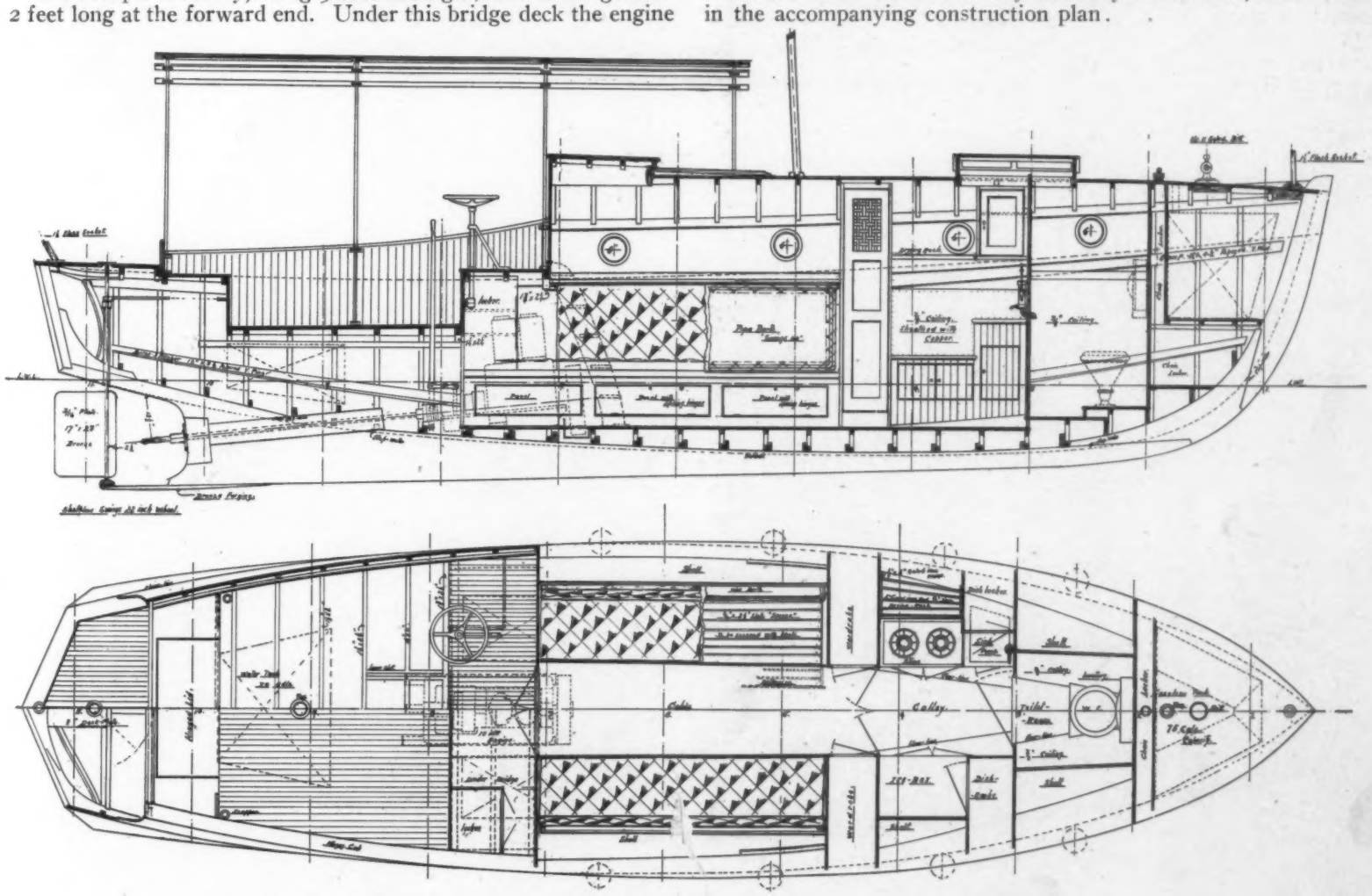
The cockpit is roomy, being 9 feet in length, with a bridge deck 2 feet long at the forward end. Under this bridge deck the engine is installed, the power consisting of a two-cylinder, four-cycle motor of 4½ inches by 6¾ inches bore and stroke, with only the flywheel projecting into the cabin.

The cabin has an extension berth on either side. There is a hinged pipe berth at the back of each transom, which can be swung up, making an upper and lower berth on each side, thus giving sleeping accommodations for four persons.

Forward of the transoms are a large clothes locker on either side and then an extremely large and well found galley extending the full width of the boat, and containing icebox, dish rack, sink, etc. Then comes the toilet room, with plenty of shelf room and a folding wash basin. The head room under the carlines is 5 feet 9 inches.

The gasolene tank is in the bow with a capacity of 75 gallons, while the water tank is aft, under the cockpit floor.

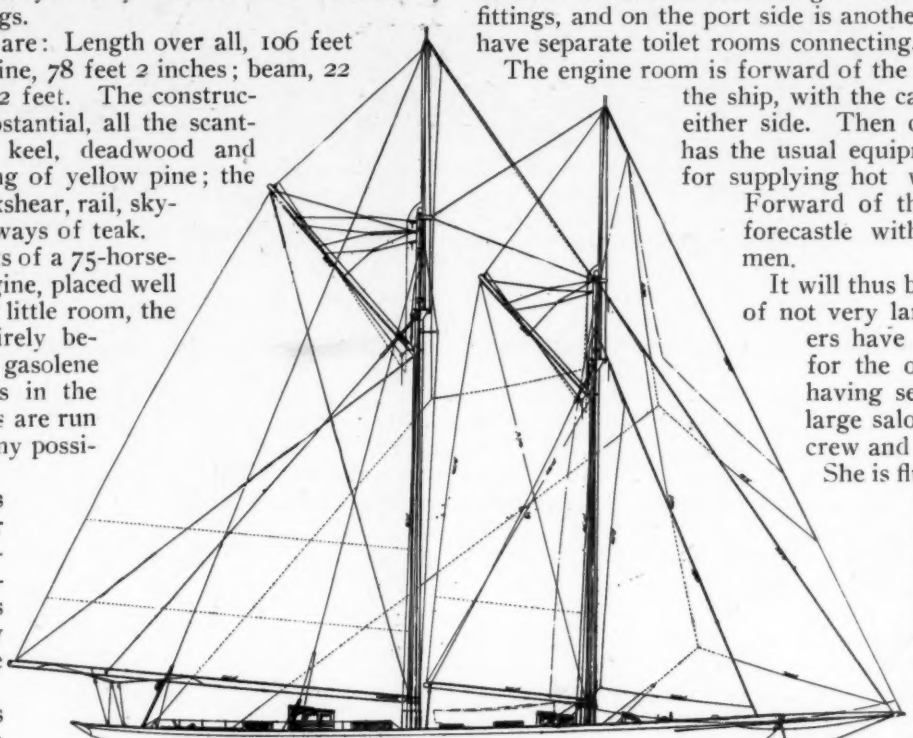
All the details have been very carefully worked out, as is shown in the accompanying construction plan.



A 78-Foot Auxiliary Schooner

MESSRS. COX & STEVENS have designed and are having built under their supervision at the yard of Rice Brothers, East Boothbay, Maine, a very attractive auxiliary schooner yacht. This vessel is of the modified fisherman type, being of heavy displacement. An inspection of the lines shows that she will be exceptionally able, and can stand heavy weather at sea without discomforture to those on board. She has a lively sheer, ample freeboard, powerful yet easy sections and moderately short, well-turned overhangs.

Her general dimensions are: Length over all, 106 feet 7 inches; length of water line, 78 feet 2 inches; beam, 22 feet 2 inches, and draft, 12 feet. The construcion throughout is very substantial, all the scantlings being heavy. The keel, deadwood and frames are of oak, planking of yellow pine; the deck is of white pine; plankshear, rail, skylights, hatches, companionways of teak.



The motive power consists of a 75-horsepower, 4-cycle gasolene engine, placed well forward where it takes but little room, the shaft line being kept entirely below the cabin floor. The gasolene is carried in copper tanks in the lazarette. The supply pipes are run outside the hull to avoid any possible danger.

Particular attention has been paid to the interior lay-out, to secure the maximum possible accommodation for the owner and his guests, and yet to allow sufficient room for the necessary crew.

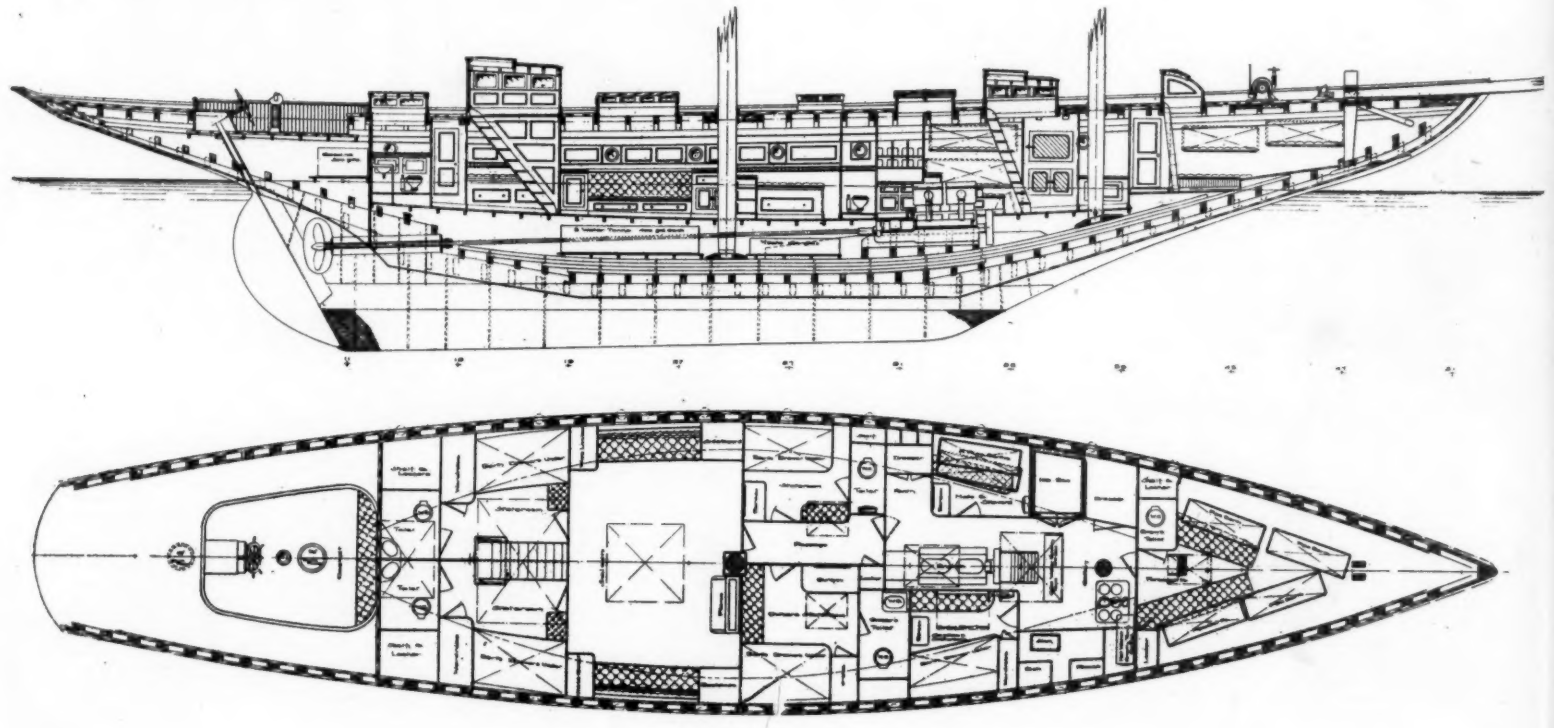
Entrance to the owner's quarters is by means of a companion on the center line of the vessel, the trunk over this being raised so as to form a comfortable seat on each side, and permit ventilation through adjustable windows. This companionway lands at the entrance to the main saloon, which is the full width of the vessel and 12 feet in a fore-and-aft length. There are comfortable divans at either side of the saloon which may be made up into beds when so desired. There are bookcases, buffet lockers, a piano, etc., in this compartment.

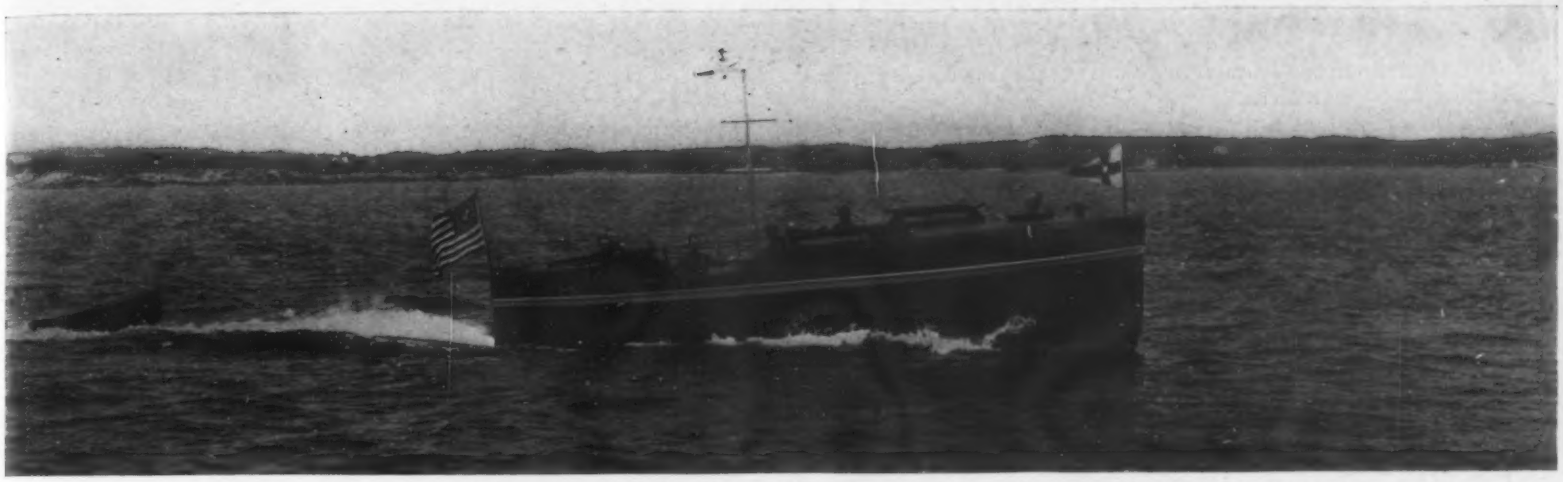
Abaft the main saloon are two staterooms, each fitted with a double berth, drawers, wardrobe, etc., and each having a separate toilet and wash room connecting. Forward of the saloon is the owner's stateroom containing a double bed, sofa and the usual fittings, and on the port side is another stateroom. Both of these have separate toilet rooms connecting.

The engine room is forward of the staterooms, in the center of the ship, with the captain's and mate's room on either side. Then comes a large galley, which has the usual equipment, including water tank for supplying hot water throughout the ship. Forward of the galley is a comfortable forecastle with accommodations for six men.

It will thus be seen that on this schooner of not very large dimensions, the designers have secured four large rooms for the owner and his guests, each having separate toilet, an unusually large saloon and ample space for the crew and officers.

She is flush decked throughout, ventilation being secured by air ports of ample size and also, where necessary, by skylights overhead. There is a large self-bailing cockpit aft for protection in heavy weather, which is a great element of comfort and safety. The rigging plan shows moderate sail area, but sufficient to keep the vessel going in an ordinary breeze, as she has ample power to make 8 knots under the engine alone. She has a low rail around the deck and a life line on stanchions aft.





REMOH IV FLYING THE PENNANT AND FLEET CAPTAIN'S FLAG OF THE BOSTON POWER BOAT SQUADRON LAST YEAR

Forming a National Power Boat Squadron

THE second meeting for the formation of a National Power Boat Squadron was held at the New York Yacht Club on Feb. 2 and such satisfactory action was taken that it looks as if a national organization along the lines proposed at the first meeting, and following in general the plan of the Squadron of the Boston Yacht Club, will be formed. At this meeting twenty clubs signed a tentative agreement to become members of a National Squadron. This agreement was binding to September 1, before which date each club, or association of clubs, agreed to form a squadron of not less than ten boats. The officers elected at the meeting were:

Commander, Roger Upton; vice-commander, Holman Day; rear commander, Worthington Scott; secretary, Bryan S. Permer; treasurer, C. F. Chapman; governors, Charles Langstreth, F. M. Wilson, H. A. Morss and F. A. Cornwall; flag lieutenant, N. L. Stebbins.

The Navy Department of the United States is heartily in sympathy with this movement, and in a recent speech made in New York the Assistant Secretary of the Navy, Mr. Roosevelt, spoke of the value that such an organization might be to the United States in time of need. With the insistence upon proper qualifications for membership in the Squadron, he said that each owner holding a Squadron license would be competent to receive a commission to handle his own boat in the government's service.

Another phase of the matter that has an advantageous bearing on the formation of the Squadron is that legislation by the government requiring some kind of a power boat license is bound to come sooner or later, and it is probable that if power boat men take the matter up themselves, as they are doing in this power boat Squadron, and require boat owners before becoming members to pass certain necessary examinations to qualify, the government would be satisfied with such proof of ability to handle a boat and would not attempt any further regulation. A bill is to be introduced in Congress to establish a special pennant to be flown by members of the Squadron.

When Red and Green Running Lights Came Into Use

SEVERAL of the readers of YACHTING have recently written to inquire when the red and green running lights first came into general use and were made compulsory by the various maritime nations of the world.

Contrary to general belief, the use of distinguishing lights on either side of a vessel is of quite recent origin and can be traced almost directly to the advent of steam and the necessity of knowing how another vessel was heading, there being no sails to indicate the course as in the case of sailing vessels.

It was not until June 30, 1848, that the British Admiralty required the carrying of red and green side lights on steamers. This law applied to steamers only and was only made compulsory on all classes of vessels in 1862, on the adoption of the Act for Preventing Collisions at Sea. In this country the first Federal law requiring the carrying of these lights was dated March 3, 1849, and applied only to vessels (both steam and sail) navigating the "northern and western lakes" (Great Lakes).

In 1864 this country followed the lead of Great Britain, and Congress approved the Act by which was adopted the first international rules to prevent collisions at sea (which was practically the same as the English Act of 1862). This made it compulsory on all American steam or sailing vessels to carry the side lights "on all waters."

For some ten years previous to 1848 sailing vessels, both English and American, occasionally carried distinguishing lights on their sides, but the use of them was not common. When they first began to use them it was customary to display such lights only on the weather side, probably because the head sails or courses would cover the one on the lee side. In the old days the big stern or poop lanterns were used by all vessels to mark their presence at night, but when these were done away with and a single white light was used it must have made navigation even more hazardous than it need to have been.

If I remember rightly, even R. H. Dana, in his Two Years Before the Mast, does not mention anywhere the use of sailing lights.

Mackinac Race to be Revived

AFTER being allowed to lapse for two seasons the annual race from Chicago to Mackinac Island will be revived this season by the Lake Michigan yachtsmen. This was decided upon at a meeting of the boat owners of the Chicago Yacht Club on February 10. In the place of the Mackinac Race of 1912-13, races were held to Harbor Springs and Little Traverse Bay, and it is probable that these events will now be dropped.

In the past, the Mackinac Race has frequently furnished the best and most exciting long-distance racing in this country, and it was always the principal event of the season on Lake Michigan. In fact, the Lake Michigan sailors concentrated more on this race than on general inter-club racing. It afforded a fine chance to get all the boats from Chicago to Mackinac Island in fast time, from which point they could cruise as they pleased to Georgian Bay, Luke Huron or around the islands at the foot of Lake Michigan.

This year the race will be started August 1, and it will not only give those boats that wish to go on to Toronto for the Yacht Racing Union Cup series a chance to get there by August 15, but will set them a long way on their journey.

Elimination races to decide which boat will represent Chicago at Toronto will be held late in June or early in July. A syndicate has been formed to build a new Class "P" sloop for this event

and the boat is already underway at Wood's Yard, City Island, from designs by Gardner.

It is also stated that a new Class "R" boat is being built for the Lakes, which, it is hoped, will be the first of a good-sized fleet of these little fellows that will be raced on the Lakes in the future.

My Funniest Motor Boat Incident

WE do not vouch for the veracity of the following story. It was sent in by one of our friends and is plausible enough to convince the most matter-of-fact "Bug." If you don't believe it, go and try for yourself:

"'Old Nick' Rackett was not the name he was christened under. It just grew upon him from his front name, Nicholas, coupled with the fact that he had a little fishing camp up on the river bank that was a good place at which to tie up when out for a spin. 'Old Nick' watched over the boys' boats, cooked fish for them and acted as a willing lackey when a case or so of beer was sent out to the stream.

"Everyone had great confidence in 'Nick'; he took good care of the boats and was a boon companion when companionship was indicated. One day, in the kindness of his heart, 'Jack,' who owned a metal hull motor boat, gave 'Nick' permission to use it. 'Nick' studied over the matter for a few days. He had seen the boys start their engines, tune up the coils, etc., etc., and upon a certain occasion, when the writer was grooming his craft, 'Nick' took his first plunge into the intricacies of the gasolene engine.

"From where I was working in my boat I saw him lug the battery box down to the boat and place it in position. He connected up the wires gravely, correctly connecting the high tension cable to the spark plug, as I watched him from out the corner of my eye. Then he yanked the fly wheel over and over again, but without result. Finally he called down to me, 'Howinell do you make this thing run?'

"I stepped from out my boat and crossed the narrow landing place to have a closer look. 'Nick' was barefooted; the hull had about four inches of water in it; his feet were firmly planted upon the bottom and the water played about his bare feet and ankles. He had merely forgotten to throw in the switch, and, this duty performed, a single tug at the flywheel caused the engine to awaken into life. 'Nick' surveyed the chugging engine with a critical eye, and, struck by an inquisitive impulse, said, 'What's this thing for?' and grasped the spark plug in his knotty hand. (Most motor boatmen know what a healthy spark plug can do if irritated, nor did they have to put their bare feet into water inside a metal hull to acquire the knowledge.)

"'Nick' went over backwards. I had time to note that his legs drew up; even his toes strained to meet his heels, and as he picked himself up and stalked out of the boat, he cursed that innocent engine to torments indescribable. Personally, I ruined a good, serviceable shirt and pair of trousers as I rolled over upon the landing, laughing. F. S. O'HARA."

THE JOYS OF CRUISING, AS EXPRESSED BY THE RUSSIAN YACHTSMEN IN THE RULEVOY

Concerning the New Class "R" Boats

IT is understood that the restrictions governing the new Class "R" boats which are to be built by members of the Indian Harbor Yacht Club this summer for competition on Long Island Sound for the new trophy put up by that club will stipulate that the boats must be cabin boats instead of open boats, and certain cabin restrictions will be imposed for this class by the Yacht Racing Association of Long Island Sound.

This is a wise move, as the boats are big enough to make comfortable little cruisers, being from 38 feet to 40 feet overall, and it is well to provide such restrictions as will prevent a boat of this size being made into a simon pure racing machine. The three boats that are being built at Wood's from designs by Goeller have small cabins, as has another boat that is being built for a Lake Michigan yachtsman, and also one building at Herreshoff's.

The races to be sailed for the Indian Harbor cup will commence on the Monday preceding Larchmont race week and from present indications a goodly number of Class "R" boats will be on hand. Races to be sailed on the Sound, off Greenwich, Conn. First race to be sailed on Monday, July 6; second race on Tuesday, July 7, and if a tie exists races will be held on consecutive days until the winner is determined.

Racing Schedule for the America's Cup Defenders

A RACING SCHEDULE for the three yachts building for the defense of the America's Cup has been prepared by W. B. Duncan, of the New York Yacht Club, which will bring the boats together about thirty-five times all told. This should give ample opportunity to get the boats into the best of form, and to be reasonably certain of their respective merits.

The actual trial races will be held off Newport, R. I., August 15 to 22, but the showing made in all the races sailed after July 6 will be considered by the Cup Committee in the final selection of the defending yacht to meet the Shamrock IV in the cup races September 10, 12, 15, and following dates, if more than three races are necessary.

The complete schedule follows:

June 2, 3 and 4, New York Y. C., Glen Cove; 6, Larchmont Special; 10, 1, and 12, New York Y. C., Sandy Hook; 23, Indian Harbor Y. C. Special; 25, New York Y. C. Annual (Sound); 26, Seawanhaka-Corinthian Y. C. Special; 27, Seawanhaka-Corinthian Y. C. Annual; 29, Larchmont Y. C.

July 2, New York Y. C. (Sound); 3, American Y. C. Annual; 4, Larchmont Y. C. Annual; 7, Eastern Yacht Club, Newport; 8, 9, 10, 11, 13 and 14, New York Y. C., Newport, match races, in pairs; 16, 17, 18, Newport Yacht Racing Association; July 30, New York Y. C. cruise (Rendezvous); 31 to August 8, New York Y. C. cruise.

August 15 to 22, trial races at Newport.

Driftwood from Alongshore

1914 Programme of the California Section of the A. P. B. A.

The following is the programme for the season adopted by the clubs forming the California section of the A. P. B. A.:

February 22—Endurance race for cruisers. For the Standard Gas Engine Company trophy, now held by Lizzie M. Start and finish at Exposition Grounds, San Francisco. Course not less than 25 miles.

May 30 and 31—Annual regatta at Sacramento, Cal. Races in all restricted classes. Cruiser handicaps and unlimited 20-foot and 32-foot class, for the championship of the Pacific Coast. The races for the 20-foot championship and the 32-foot championship of the Pacific Coast will be absolutely the only races for these titles that will be sanctioned by the A. P. B. A.

July 18 and 19—Stag cruise to Point San Pablo.

September 9—Long distince race. Course to be announced later. Standard Gas Engine trophy.

October 10, 11, 12—River cruise. From the bay up the Mokelumne River to New Hope Landing. Thence return home via Georgiana Slough and the Sacramento River.

As the race of February 22 will be the first race held under the new horsepower rating rule of the A. P. B. A. adopted this winter, the results will be watched with great interest. They will appear in the April issue of YACHTING.

Meeting of the Middletown Y. C.

Some fifty members attended the annual meeting of the Middletown Yacht Club on February 11. Ten new members were admitted at that time, bringing the membership over the 300 mark, the total being 306. Officers were elected as follows: Commodore, T. Macdonough Russell; vice-commodore, Prof. Frank W. Nicholson; rear commodore, Albert I. Betteridge; secretary, Harold A. Williams; treasurer, G. Ellsworth Meech; measurer, Willis E. Perkins.

House Committee—Herbert C. Danforth, chairman; Edward H. Wilkins and Harry Hobson.

Regatta Committee—A. D. Williams, chairman; W. U. Pearne and Arthur C. Smith.

The Meeting of the National Association of Engine and Boat Manufacturers

The annual meeting of the National Association of Engine and Boat Manufacturers was held in the Engineers Building on February 6. The reports of the various committees showed the Association to be in a very satisfactory state, the report of the show committee being extremely gratifying. The New York show this year was one of the most successful ever held, from a financial point of view as well as from the standpoint of exhibits. It is expected that the Chicago show will also be a great success.

The five members of the executive committee that were elected were James Craig, Crispin Oglebay, W. H. Mullins, O. J. Mulford and C. L. Snyder.

City Island Yacht Club Election

At the last regular meeting of the City Island Yacht Club the following were elected to office for the season 1914: Commodore, W. W. Walters; vice-commodore, J. White; rear commodore, J. Pepper; secretary, F. W. Teufer; financial secretary, J. Gutman; treasurer, H. E. McLewee; measurer, R. Purdy; fleet captain, C. Herbert.

The club is in a flourishing condition and offers many advantages to yachtsmen, especially to those owning boats. The new club house is facing the Sound at City Island and offers a convenient and fine anchorage.

Plans of Chesapeake Bay Yacht Racing Association

The annual cruise of the Chesapeake Bay Yacht Racing Association will start at Baltimore on August 22 with motor boat races and a reception by the Baltimore Yacht Club. From Baltimore the fleet will cruise to Annapolis, thence to Oxford, where there will be a reception tendered by the Chesapeake Bay Yacht Club and a series of races for motor boats and sailing craft. From Oxford the boats will cruise to Cambridge, where the Cambridge Yacht Club will be the hosts and there will be held more races. The object in making the cruise so late in August was to give yachtsmen from other points outside of the Chesapeake an opportunity to attend without interfering with their local schedules. It is expected that some of the Long Island Sound racing boats will come down to participate, as special inducements will be offered them to make the journey.

The following officers of the Association have been elected: President, Francis W. McAllister, Baltimore Yacht Club; vice-president, W. W. Grier, Capital Yacht Club; secretary-treasurer, Charles E. Henderson, Jr., Chesapeake Bay Yacht Club. The additional members of the executive committee were elected as follows: W. W. Varney, Corinthian Yacht Club; J. Austin Dinning, Baltimore Yacht Club; E. Stanley Zell, Baltimore Motor Yacht Club, and Stuart Stevens Scott, Cambridge Yacht Club.

Baltimore Yacht Club Officers for 1914

Commodore, Isaac E. Emerson; vice-commodore, W. B. Hurst; rear commodore, Arthur D. Foster; treasurer, J. A. Davis; secretary, J. A. Dinning; measurer, H. M. Foster.

Governors—E. A. Walton, Dwight F. Mallory, William D. Gill, H. G. Skinner.

House Committee—Parker Cook, Dr. Dudley Williams, E. W. Hughlett.

Regatta Committee—F. W. McAllister, W. H. Towles, Thos. E. Coale.

New Rochelle Yacht Club Election

More than a hundred members of the New Rochelle Yacht Club attended the annual meeting and dinner of that organization in the Manhattan Hotel February 7. The reports of the various committees were very satisfactory, and its affairs as regards membership, finances, etc., are in better shape than ever before.

The following officers and committees were elected: J. Albert Mahlstedt, commodore; Henry H. Moulton, vice-commodore; James L. Givan, rear commodore; C. A. Marsland, secretary; Henry M. Lloyd, treasurer; Henry H. Todd, William H. J. Ehlers and Edwin A. Knapp, trustees; Roger M. Haddock, measurer, and Perry C. Pfeiffer, Martin S. Kattenhorn and George C. Malloy, regatta committee.

Gravesend Bay Yacht Club

The Gravesend Bay Yacht Club held its annual election in January at 6 Brooklyn Avenue. Mr. Edwin O. Thomas was elected commodore for the current year, and Lent Smith was re-elected as secretary.

The usual reports were read, and all showed that the club was one of the most flourishing on the Bay.

The other officers and committees elected for the ensuing year are as follows: Vice-commodore, Calvin I. Crocker; rear commodore, J. Champlin Pierce; treasurer, J. H. Breaznell; measurer, Chris Myck; board of governors, E. Kendrick, J. Bartlett.

New One-Design Class for Great South Bay

The annual dinner of the Great South Bay Yacht Racing Association, which was held at the Hotel Claridge on January 31, brought together some 60 members of the various clubs which comprise the association.

Plans for the coming year were talked over and a new one-design class of 21-foot overall knockabout was proposed and steps were taken to get several boats built in each club. This would make excellent racing throughout the season, and insure a good-sized fleet in every regatta. The boats are centerboard craft with 200 pounds of outside lead. The sail plan is moderate and well inboard. It is understood that they can be built complete for about $250.

Among those present were Dr. G. L. Rice, president of the Association; Commodore J. W. Lawrence, secretary; Commodore Francis H. Holmes, of the Bellport Bay Yacht Club, Messrs. H. E. Boucher, Reginald Fay, J. A. Connolly, Harry Growtage, D. J. Meserole, Herbert L. Stone, and Commodores Mollenhauer, Louden and Southard

Some Recent Yacht Sales

The following sales and charters are reported through the office of Stanley M. Seaman:

The 55-foot raised deck cruiser Nereides II, sold for Francis C. Roger to John Hays Hammond, Jr., of Gloucester, Mass; the 50-foot cruiser Chalen, ex Santee, sold for William W. Brooks to Dr. G. W. Van Benschoten, Providence, R. I.; the 45-foot cruiser MLE, sold for Frank B. Bower to C. L. Crater, of Amityville, L. I.; the 40-foot cruiser Moonahonis, sold for L. de F. Downer to L. P. Bradley, of New York; the 46-foot auxiliary yawl Zenobia for Messrs. Everett Masten and D. G. Holbrook to John W. Duncanson, of Mapleville, R. I.; the 40-foot yawl Primrose II for W. E. Taft to Robert W. Otis, Providence, R. I.

The Hollis Burgess Yacht Agency of Boston has sold the 28-foot catboat Julia for W. H. Bartlett, of Boston, to Captain Frank E. Wadsworth of South Duxbury, Mass.; the Cohasset Yacht Club one-design knockabout Vamoose for J. Warren Merrill of Manchester, Mass., to Commodore William H. Childs of the Indian Harbor Yacht Club, Greenwich, Conn.; and the sloop Aspinquid II, owned by George S. Smith, of Boston, to Sedgwick Smith, of Skaneateles, N. Y.

Cox & Stevens, of New York, announce that through their agency José Miguel Gomez, ex-president of Cuba, has purchased the auxiliary schooner yacht Whim from the estate of Clement A. Griscom of Philadelphia. The Whim has left for Havana, which will be her new home port, and will be used by ex-President Gomez and friends for general cruising among the West Indies, fishing and gunning.

Tams, Lemoine & Crane announce that they have sold Commodore H. S. Vanderbilt's schooner Vagrant, the first of that name, to Hudson Chubb, of the Atlantic Yacht Club. Vagrant is 76 feet long overall, was built by Herreshoff in 1910, and in that year won the Bermuda race.

Metropolitan Yacht Club

At the annual meeting of the Metropolitan Yacht Club, held in January, the following officers were installed for 1914:

William F. Caeser, commodore; Robert Spittle, vice-commodore; M. F. Brickner, rear commodore; George J. Oakes, treasurer; John Lavery, financial secretary; James A. MacDonald, recording and corresponding secretary; John Gallagher, chairman house committee; Adam J. Fredenberg, chairman of entertainments; William Symmers, chairman of regattas.

From the reports rendered by the retiring officers and committees they showed that the year of 1913 was one of the most successful in the club's history. The 1914 administration is already making preparations for races, carnivals and entertainments, and it is their intention to eclipse, if possible, the last successful year.

With about ten trophies to be raced for, beside the annual club regatta in August, which, by the way, was the largest sailed out of Pelham Bay last year, the season promises to be a very active one.

Mess Room Talk

IN this Department we will answer questions concerning the problems which boat owners are constantly running up against in the operation of their motors or the handling of their boats. Theoretical as well as practical questions will be answered promptly by mail, and when of sufficient interest will be printed for the benefit of YACHTING readers. This service is free. Don't hesitate to make use of it. Address, Information Department, YACHTING, 141 W. 36th St., New York City.

A Handy Bilge Pump for Power Boats

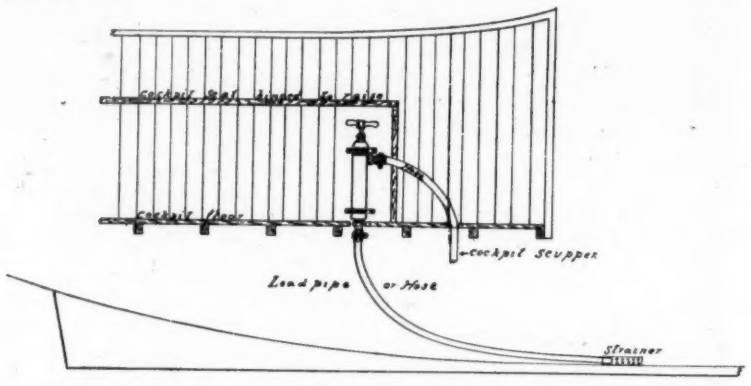
PORT WASHINGTON, N. Y.

The drawing herewith shows a simple and efficient method of fitting a hand bilge pump where it is out of the way, yet handy and always ready for service.

The pump is a stock article 18 inches over all, 7½-inch stroke and 2 inches diameter of cylinder, and will pump a pail full in about seven strokes, which is capable of keeping the average 30-footer dry without undue labor, provided the bottom is reasonably tight. The pump is secured by straps under a convenient cockpit seat as near as possible to one of the cockpit drain pipes (provided the cockpit is self-bailing) and a short piece of hose attached to lead into this scupper hole.

The intake pipe may be of lead, but this will necessitate a wiped joint. Good steam hose will last a long time and may be easily attached to the pump by means of a hose coupling. This pipe should lead to the lowest point in the bilge and over the intake end fit a perforated cylinder of copper about 6 inches long, which will prevent the dirt getting in and choking up the pump.

The hose for the outlet should be just long enough to conveniently push into the scupper drain pipe and fit fairly snug. This method prevents the cockpit from being flooded when pumping out, and may be used when boat is under way. In a sail boat, when running, the hose may be left in the scupper hole and will prevent the water backing up into the cockpit when heeled down, but should be pulled out when at anchor to let the rain water out.



If the cockpit is not self-bailing, the outlet hose should be made long enough to reach over the rail, and if there are no seats in the cockpit, a neat box in the form of a seat may be built to enclose the pump. It is also a good plan to run a small brass or copper chain through the limber holes fore and aft the full length of the boat, as a light pull on this chain will clear the dirt from the holes, letting the water run to the lowest point and prevent the bilge water from standing in the pockets between the frames and becoming stagnant.

I have had this outfit in service several years in my auxiliary sloop with no repairs except one new washer. H. W. L.

Engine for a Mississippi Flat Boat

MONTICELLO, IA.

Will you please tell me what power marine engine I would need for a flat boat 10 feet by 30 feet, carrying about a ton weight, all told, up the Mississippi at the rate of 5 miles per hour?

Also give me the name of three or four companies making marine engines that can be attached to hind end of any boat and removed in a few minutes and attached to another boat. About what is the weight of these engines? E. N. T.

It is impossible to answer your first question accurately without knowing more about the type and shape of the boat. Some flat-bottomed boats are easy to drive, and some are not, depending on the model.

I should say that from a 14 to a 20 horsepower engine would be necessary to obtain a speed of five miles an hour against the normal low water current of the Mississippi. You would want a heavy-duty engine turning up not over 400 revolutions per minute.

I base this estimate on the power necessary to drive boats of about this general size at a speed of 8 to 8½ miles an hour in slack water.

There are several firms making a good reliable outboard or detachable motor from 1½ to 3½ horsepower. Most of them advertise in YACHTING, where you will find their addresses. These engines weigh from 55 to 75 pounds complete.

Measuring Cross Section

LOCKPORT, N. Y.

Will you kindly inform me the best way to figure the largest vertical cross section of a boat of the following dimensions: Length overall, 12 feet 6 inches; overall beam, 4 feet 6 inches; depth, 17 inches?

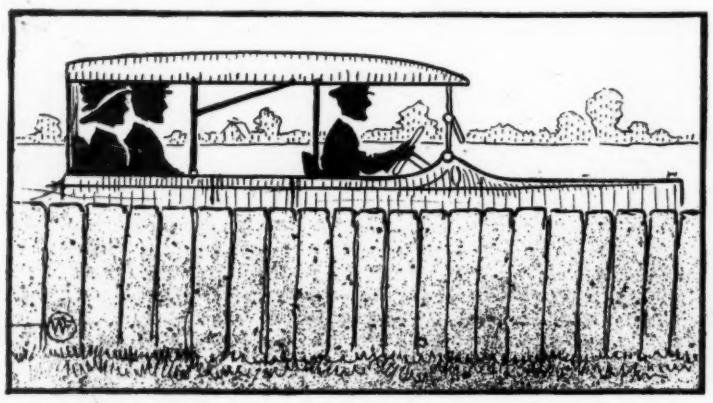
The commodore of our dinghy fleet is very anxious to establish some definite scantling restrictions, and I would like to know if it would be advisable to use the vertical cross section area or scantling restrictions in a rule for boats of the character of the 12 and 14-foot dinghy classes.

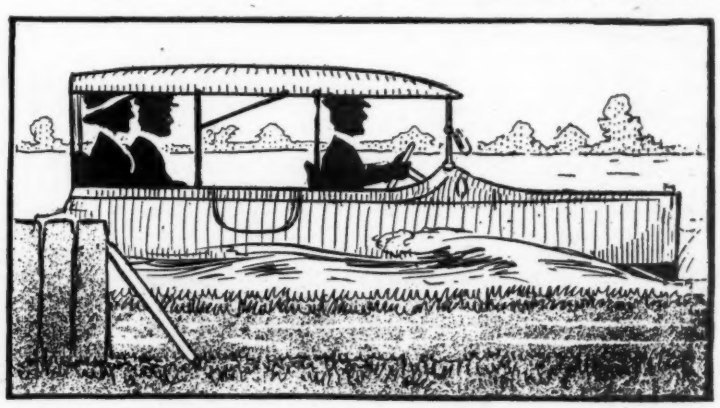
Would some restrictions along this line be proper: Length of boats not to exceed overall 14 feet; boats to be of centerboard type; sail area not to exceed 140 square feet, etc.? J. E. E.

In reply to your question as to finding the vertical cross section of a boat, I would say that it may be obtained according to the A. P. B. A. rule, which is the simplest that I know of, as follows:

"Midship section to be expressed in square feet, and is to be obtained as follows: With the boat in the same trim as when being measured for load waterline length, take the beam (B) of the boat of the water surface at a point 55 per cent from the forward end of the load waterline, or at such a point as may be designated by the owner or his representative to the measurer as that of the greatest immersed transverse section. Divide B into five equal parts or stations, and at the first inboard station from either end measure perpendicularly from the water surface down to the under side of the boat's planking (C). Then C multiplied by B will give the midship section."

This, of course, only obtains the area of the immersed midship section.





IF WE HAVE THIS IN UP-TO-THE-MINUTE RUNABOUTS—

Photo by N. L. Stebbins

ONE OF THE FIRST AUXILIARIES. A CATAMARAN WITH A "MAN-POWER" STERN WHEEL

In reply to your further question as to the advisability of using cross section or scantling restrictions for a class of small dinghies, I would say that I feel personally that the fewer restrictions you have the better, and the few should be as simple as possible.

I don't believe I would use a cross-section restriction, but would use such restrictions as maximum length overall, minimum beam, maximum sail area, centerboard or keel type (whichever is decided upon), with certain general restrictions, such as planking must not be less than a certain thickness, frames must be at least a certain size, etc., or else (which amounts to the same thing in the end) a general restriction that boats shall not weigh less than a certain amount. It is always easy to weigh boats of the size you mention.

Anchor for a 35-Footer

NEW YORK, N. Y.

Last summer I had quite a little trouble at times with my boat dragging her anchor. Can you give me any information as to what weight anchor and what size rope is suitable for holding a 35-foot sail boat (Islip one design)? What do you consider the best style anchor for general use? H. G. V.

The weight of anchor required for any size of boat is often determined by the character of her anchorage. If it is exposed, a heavier anchor is required. I take it from what you say that your boat is moored in rather an exposed place.

For a 35-foot boat, such as yours, a 60-pound anchor ought to be plenty heavy enough for an ordinary anchor, while a 75-pounder would do for a heavy anchor for emergency use in exposed places. The size of cable for this anchor would be one inch diameter if rope, and quarter of an inch if chain. For convenience, a somewhat smaller anchor of 45 or 50 pounds could be used when only anchoring for short periods, the 60-pounder being reserved for such times as leaving the boat over a week.

In regard to the type of anchor, there is considerable difference of opinion on this point. I think for ordinary use a kedge anchor with removable stock is all right, though the Herreshoff anchor with a long, fairly wide fluke has great holding power and is very efficient. Some of the folding anchors are also very satisfactory and have the advantage of taking up but little room when stowed.

Proper Boat Outfit for an Auto Engine

ASHEVILLE, N. C.

Can you tell me what size of boat and propeller I should use with a two-cylinder Buick automobile engine of 22 horsepower, A. L. A. M. rating? The engine weighs about 600 pounds. The outfit is to be used on the Tennessee and Missouri rivers. I shall be glad if you can give me this information. F. G.

A proper type of boat for a 22 horsepower auto engine would be a light weight boat built on semi-speed lines, either flat bottom, V bottom or displacement type (preferably the two former) of from 22 to 28 feet in length, depending on the speed you want. The beam should be in the neighborhood of 5 to 5½ feet. The size of propeller would depend on the revolutions at which you run the engine. A three-bladed wheel should be used about 16 inches diameter and 28 inches pitch at 800 revolutions, or 16 inches diameter by 24 inches pitch at about 1,000 revolutions.

For use on the Missouri and Tennessee rivers, where there are many shoals and sand bars, the wheel should be protected by a skeg or false keel.

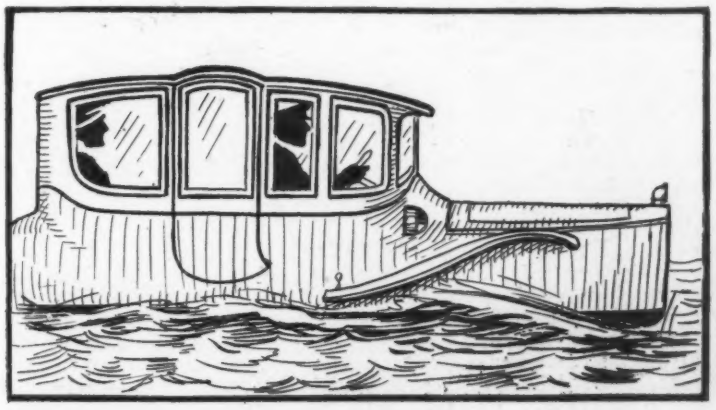
Sailing Qualities of the Catamaran

CLEVELAND, OHIO.

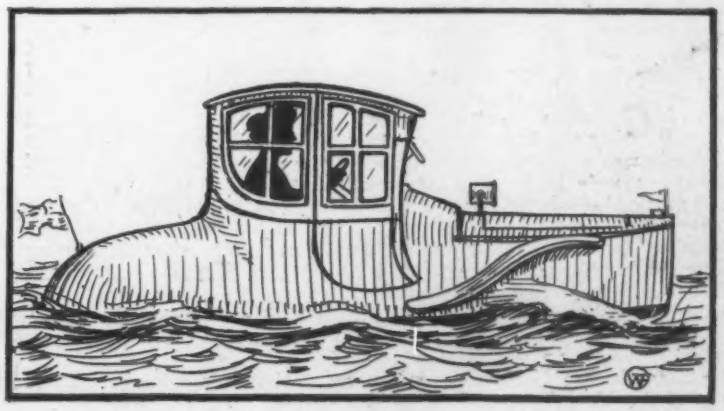
Is the catamaran a good seaboat, and is it able to go to windward in a good, strong breeze? How does it sail with the wind abaft, and what are its sail-carrying possibilities? Is it weak on any point of windward sailing and does she handle easy or not? E. S.

The catamaran is not a particularly good heavy weather craft in any place where you get a short, steep sea. In the South Sea Islands the catamaran is used a great deal by the natives, and they frequently go out in pretty bad weather, though there the seas are usually long, and the boats are built differently than in this country.

A catamaran will go to windward well if properly built, and can carry her sail fairly well, though, of course, most of the ballast consists of the crew, which usually "hikes out" as far to windward as possible. Sailing with the wind aft, it is fast, though in a heavy breeze it is apt to "pitch-pole"; that is, bury its bow on account of having but little bearing surfaces in a fore-and-aft direction. While a catamaran will handle easily if properly built, it is certainly not a comfortable boat for anything but smooth-water use. It is low in the water, and if the cockpit is between the two boats, it is constantly flooded in rough water.



WHY NOT GO A STEP FARTHER AND HAVE THIS—



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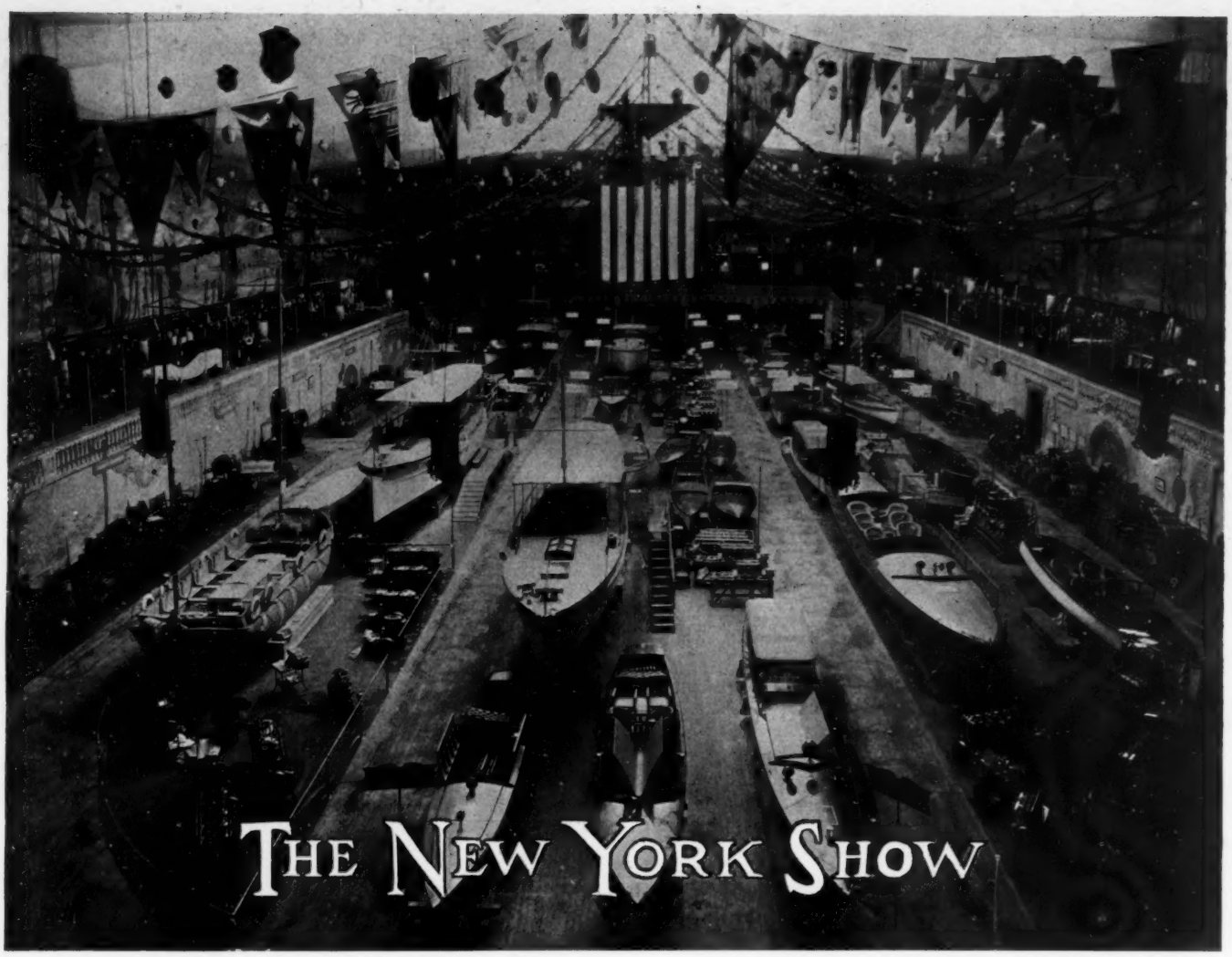


THE NEW YORK SHOW

The one thing that stood out conspicuously in the 1914 Motor Boat Show at Madison Square Garden was the high class of the exhibits—boats, engines and accessories. There was a marked advance in this respect from former shows, and it was remarked on all sides, even by the casual visitor.

Never has a finer lot of boats been collected in one spot. There were no bad boats—that is, bad in design and construction—and the whole tendency of design was along healthy lines. There were fewer purely speed boats or hydroplanes to be seen, the tendency running towards a saner and more useful type of craft. Cruisers were very much in evidence, more being exhibited than ever before. Runabouts and open boats were of a much abler type, and claims as to speed were much more moderate, there being no 60-mile-an-hour guarantees; 30 miles was about the most that was claimed.

The engines were more interesting than ever before, and were of a distinctly higher grade, both in workmanship, material and equipment, the tendency being to provide a power plant that was a complete unit, containing reverse gear, magneto, and all the necessary parts mounted on one base. This was apparent even in as small engines as 4 and 5 horsepower. It showed that the marine engine industry is being developed along more standardized lines, to the advantage of both purchaser and builder.

Another interesting development noticed at the Show was that of the Diesel type of heavy oil engines. There were four distinct engines of the Diesel type exhibited and two or three of the semi-Diesel type. These consisted of a four-cylinder, 175-horsepower, two-cycle Speedway Diesel; a 180-horsepower, six-cylinder, four-cycle engine of the New London Ship & Engine Company; a fine six-cylinder, 200-horsepower Craig and a small 50-horsepower, three-cylinder Fulton. Among the interesting semi-Diesels was a 15-horsepower single-cylinder Bolinders engine, made in Sweden, a very husky looking machine for heavy-duty work. This engine had hot bulb ignition, weighed about 3,000 pounds, and developed its power at 450 revolutions.

Another very interesting exhibit that attracted much attention was the big steel Lundin lifeboat, equipped with gasolene engine and wireless apparatus, which occupied a prominent corner in the arena, and is seen in the left-hand corner of the picture at the head of this article. It was a huge steel scow in shape, with double airtight bottom and non-sinkable.

Madison Square Garden never showed to better advantage, and the scenery of the Venetian scenes formed a very attractive and appropriate background for an exhibit of motor boats. A more comprehensive description of the Show can be had in the description of the leading exhibitors which follows:

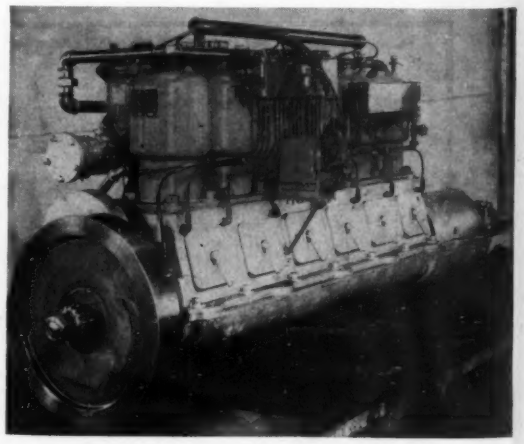
SOME OF THE EXHIBITS

SPEEDWAY BOATS AND ENGINES

As one entered the Garden the first exhibit that caught the eye was that of the Gas Engine & Power Company and C. L. Seabury Company, with the big 50-foot mahogany runabout Tango overshadowing a number of smaller boats. This boat was a wonderful piece of workmanship, being planked and finished in bright mahogany. She had a very large cockpit, 20 feet long, luxuriously finished and furnished with easy chairs and an upholstered seat across the after end, while there was a 'thwartship seat at the forward end, which made a steering cockpit for the helmsman. The engine was under the forward deck. It was a 60-80-horsepower Speedway, giving the boat a speed of fifteen miles an hour.

Then there was a 30-foot stock model Speedway runabout, finished in white outside with mahogany deck and cockpit trimmings, and powered with a 24-30-horsepower Speedway motor, giving her a speed of fifteen miles an hour; and a very handsome 21-foot Speedway yacht tender. This boat was built of white cedar, finished bright, with mahogany deck and trimmings, the power being a 16-20-horsepower Speedway with aluminum base, giving a speed of sixteen miles an hour. The usual line of Speedway engines was shown, including a 7-kilowatt electric lighting set.

The most interesting engine was, of course, the big Diesel. This was a four-cylinder, two-cycle engine of the high-compression or Diesel type, self-reversing, with single scavenging cylinder, driven from a separate crank on the after end of the engine. The cylinders are 9 inches bore by 12 inches stroke, and fitted with loose heads.



The 6-cylinder, 6" x 6", 60-80 horsepower Speedway yacht motor

12-foot power tender of the Milton Boat Works, made from YACHTING plans. 2½ horsepower Waterman motor

A HANDSOME LITTLE POWER "DINK"

A handsome little power "dink" that attracted the attention of all those who have ever been troubled over the "Dinghy Problem" was the 12-foot, lap-strake cedar tender built by the Milton Boat Works, of Rye, N. Y. This boat was familiar to YACHTING readers, as the full plans of it were published in this magazine about a year ago with directions for building it. It is 4 feet 2 inches wide and is powered with a 2-horsepower Waterman engine. Seats and interior trim are mahogany. Its design makes it particularly adaptable for small yachts, as it has good carrying capacity, tows easily, is light and seaworthy. About a dozen of these were ordered at the Show. The price is very reasonable for first-class work.

THE WINTON EXHIBIT

The big white-enameled Winton engine near the Fourth Avenue end of the Garden halted every visitor at the Show in front of the Winton booth. This exhibit consisted of a six-cylinder, 100-125-horsepower, 8-inch x 11-inch motor that reflected the high grade of workmanship that went into its making. The engine had throttle control, as in a steam plant, indicator gauge for telling the speed, and no superfluous working parts, the whole being very simple and yet accessible. The speed range is from 100 to 450 revolutions, and the total weight is 9,000 pounds. In addition to this there was a small six-cylinder *en bloc* engine of 7½ horsepower, 2¼ inches x 3 inches, weighing 260 pounds, for yacht tender use, and a 15-horsepower, 3-inch x 4-inch, six-cylinder, 5-kilowatt electric lighting set.

The Geo. Lawley & Son Corporation, of Boston, Mass., are installing in their yard four 200-horsepower, two 125-horsepower and three 75-horsepower Winton motors.

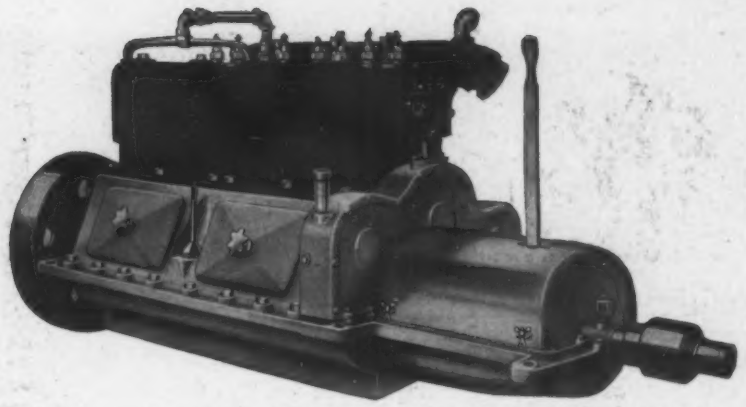
The Winton Gas Engine & Manufacturing Company are opening a branch office in New York City with a store to display not only their main power plants but the various auxiliaries which they build.

Mr. Albert E. Eldredge, formerly connected with the A. E. Eldredge Corporation, and well known in the gas engine industry in the East, has associated himself with the Winton company exclusively, by accepting the management of this branch. This move is made to facilitate the handling of Winton motors on the Eastern coast, where they have become very popular.

BUFFALO MOTORS

The big Buffalo booth on the Twenty-sixth Street side of the Garden contained a full line of Buffalo four-cycle motors; but the one that attracted most attention was the new four-cylinder, 3¾-inch x 5-inch Buffalo high-speed engine, which the company has just gotten out, and is building in lots of one hundred. It is rated at 16-20 horsepower, and develops its power at a normal speed of 800 revolutions per minute. The weight, with reverse gear and full equipment, is only 550 pounds.

All parts are accessible, including the camshaft, which is removable, and runs in three bronze bearings. The cylinders are of the "L" type, cast in pairs, of close grained gray iron. They have large panels on the side of the water jackets for cleaning. The base is of aluminum, and contains the crankshaft bearings, which are removable. The pistons are made from gray iron, four rings to each cylinder, and all located above



The new 16-20 horsepower Buffalo light-weight, high-speed engine, 3¾" bore by 5" stroke. Weight, 550 pounds

the piston pin. The crankshaft is drop-forged steel, the pins and bearings being ground. The flywheel is bolted to a flange, integral with the crankshaft. The exhaust manifold is water-jacketed and attached to cylinders by drop-forged clamps.

The lubrication is by means of a constant-level splash system, and a large-capacity rotary oil pump forces a stream of oil on all four crankpins. The cooling water enters the water-jacket below the valves, leaving at the top of the opposite side. The water pump is bronze and of the rotary type. Joe's multiple disc reverse gear (enclosed) is mounted on base.

This new model is equipped with high-tension double ignition system, including a Bosch magneto and a separate distributor system. The engine can be equipped with an electric starter or a rear starter of the sprocket-and-chain type.

"The Latest Word in High-Speed Design" is the title of an attractive little folder which has just been published by the Buffalo Gasolene Motor Company to introduce this new engine. It explains in detail all of the points of design and construction, and goes on to show why, in the opinion of the builders, this particular model is the latest word in high-speed construction. The folder may be had by writing the Buffalo Motor Company.

THE HOLMES LIFEBOAT CRUISER

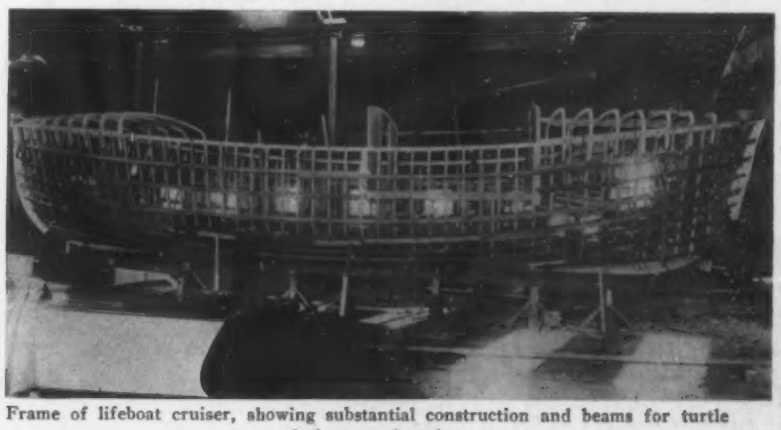
Another big exhibit that dominated the Garden was the 36-foot Holmes lifeboat model cruiser, which towered above most of the other boats in the arena and attracted a great many visitors. This boat is 36 feet long over all, 33 feet 1 inch on the water, with a beam of 8 feet 6 inches and a draft of 2 feet 8 inches. She is built exactly like the big power lifeboats used by the United States Government, except that a raised trunk is extended aft from the forward turtle deck, forming a fine, large cabin that will sleep six people in comfort. At the forward end of the cabin is a toilet room. There is a good-sized cockpit just aft of amidships, where the steering gear and engine control are concentrated on the after bulkhead.

The after cabin, which contains the engine, is entirely separated from the forward cabin, a watertight bulkhead intervening between the two. The power is 20-25-horsepower Holmes four-cylinder motor, fitted with kerosene attachment, which gives the boat a speed of nine miles an hour. Both cabin and engine compartment have full head room, and there is an awning on stanchions over the cockpit.

The name given to this type of boat is the McLellan Lifeboat Cruiser, so named in honor of Captain McLellan, the senior inspector of the Life Saving Service. In this boat one has a cruiser in which he could go anywhere—to Bermuda, the West Indies, or even across the Western Ocean if he desired, with safety and at a minimum of expense. The boat is non-capsizable (that is, self-righting), and either compartment would float her if the other was filled. The danger of fire has been reduced to a minimum, the sides of the engine room being copper lined and the floor covered

(Continued on page 178.)

The Holmes Motor Company's new 36-foot McLellan lifeboat cruiser. Powered with 20-25 horsepower Holmes motor. Speed, 9 miles



Frame of lifeboat cruiser, showing substantial construction and beams for turtle decks at each end

EDITORIAL

Much Needed Legislation It seems to be the history of all legislation that laws are not passed for the protection of life until the imperative need of them is so forcibly demonstrated as to call for instant action. This has been nowhere more apparent than in laws providing for safety at sea.

Here in this country we maintain a steamship inspection service, and have a Commissioner of Navigation to safeguard life at sea, yet neither they nor Congress seem to take the initiative toward the making of laws for the adequate protection of life until some catastrophe has caused the needless sacrifice of many persons. It took the Slocum disaster of some ten years ago to arouse the department to the need of proper inspection and the enforcement of adequate discipline on board ship; it took the Republic disaster to bring about compulsory equipment with wireless; it took the Titanic disaster to get laws for efficient life-saving appliances, and now it has taken the Monroe disaster, with the loss of forty-odd souls, to bring about agitation for the enforcement of the rules governing speed in a fog.

It is not that the proper department did not know that vessels running on scheduled time are almost never slowed down in a fog, in compliance with the regulations. Steamers running on regular lines make approximately the same time, day in and day out, irrespective of fog. The inspectors know it, the officials of the line know it, and the Commissioner of Navigation knows it, yet no steps are taken to enforce this rule, which has been adopted in the interests of safety.

Now that some forty lives have been sacrificed, possibly there will be enough agitation on this point for a few years, either to enforce the rule as it stands or to enact more drastic regulations governing navigating in a fog.

This brings up one more point on which there is crying need of legislation; and that is the operation of long "tows" along our coast, which are a constant menace to navigation, particularly in thick weather. Our coast, from Hatteras to the Penobscot, is literally plastered at all times with long strings of "tows," consisting of a tow-boat with three or four barges behind her. These "tows" are frequently a mile in length, and, in thick weather, they go blundering along in and across the direct paths of commerce.

They are the bane of the merchant captain's existence. In thick weather the law only makes compulsory the sounding of a whistle by the *tug*. The barges following often make no sound, though the last one may be a mile from the tow-boat; and the tow-boat has no way of indicating how many barges are on the string, other than a signal to indicate that the tow is over 600 feet long.

Take the case of a steamer coming up behind a long tow in a fog. She may come suddenly on the last barge, and run over her while the tow-boat is still a mile ahead and before the sound from the tug's whistle is heard if the wind is from aft. If the steamer happens to pick up the tug in the fog her captain has no way of knowing when he has safely passed the last barge, and he may strike the hawser or fetch up on the last boat, as they make no sound—and 4,000 tons of coal can send the biggest steamer afloat to the bottom in short order. The barges carry no light except the red and green side lights, which cannot be distinguished in thick weather at any distance.

Yet our navigation laws allow these menaces to ply the coast with provision only for the tug-boat to give one prolonged and two short blasts of the whistle, practically indicating that they are not under control and that other vessels must look out of the way.

The course for the majority of these tows is up the Jersey beach to Barnegat, where they cross to Fire Island, directly across the track of all incoming vessels to New York, both from the southward and the eastward. The wonder is that they have not already caused a maritime disaster equal to any that we have had in the last few years. It will take such a disaster, we presume, to wake the authorities up to the need of some regulation of this danger. Then they will throw up their hands and say it was one of the unavoidable perils of the sea, and will take belated steps to abate it.

It makes one sick to see all of the agitation in Congress about bills for the abolition of the so-called "wrongs" of the poor sailor when such a danger as this exists at all times, and that, sooner or later, is bound to cause a maritime disaster of the first magnitude. There are, of course, strong interests that will fight any legislation affecting the cutting down of these "tows," but nevertheless safety at sea requires that some action should be taken in the matter.

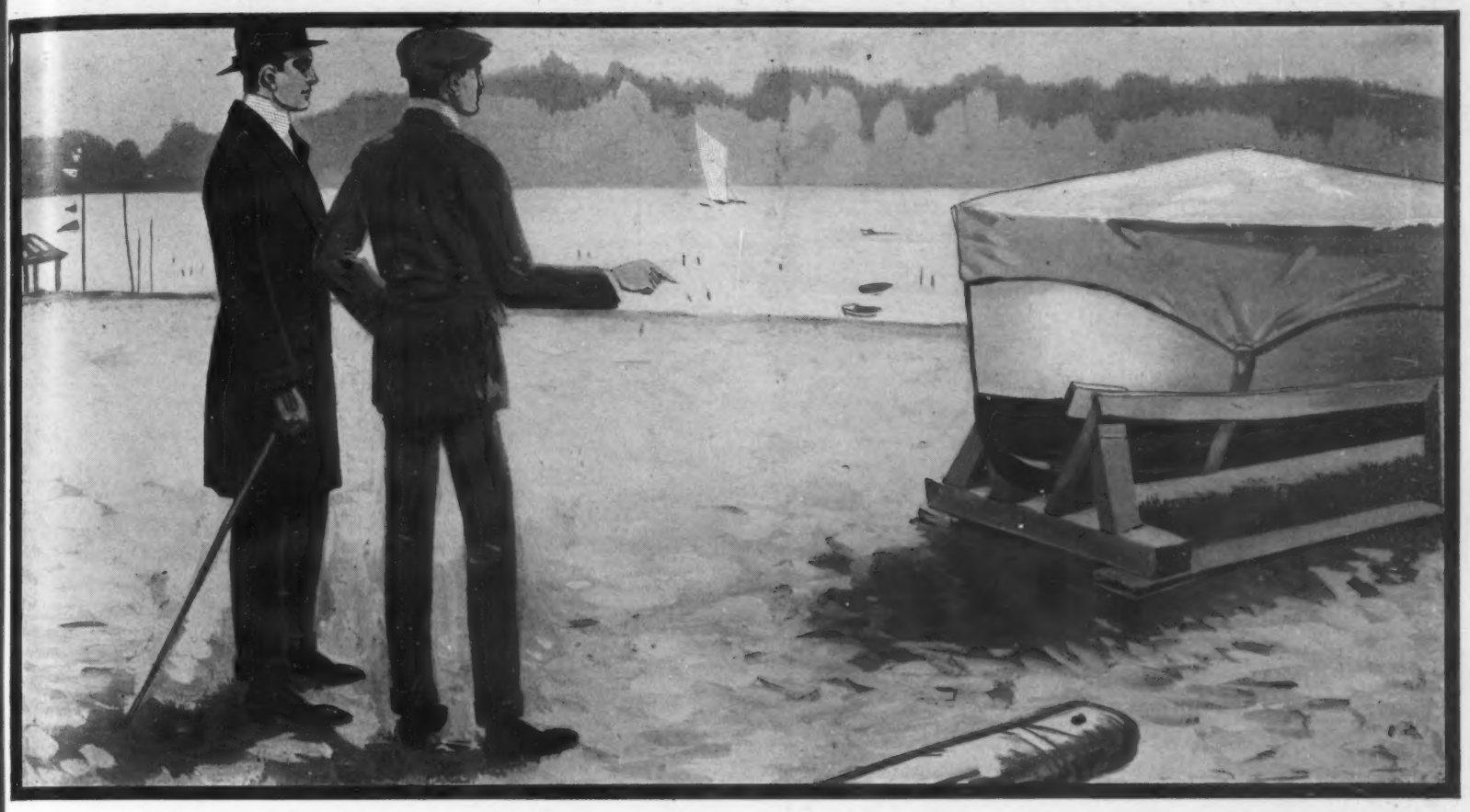
George W. Robinson It is with keen regret that all Eastern yachtsmen will hear of the death in January of George W. Robinson. Though he had been ill for several weeks, the malady was not thought to be serious, and its ending came as a shock to his friends and to those he had been sailing with only a few weeks before.

George Robinson was counted in the foremost ranks of amateur sailors by those who knew and appreciated his abilities. He will, perhaps, be best remembered by yachtsmen at large as skipper of the 28-foot sloop Gauntlet in the first Bermuda race of 1906. On that trip he took his bride of a few weeks and, running into a gale soon after leaving Sandy Hook, they were blown out of their course and were over nine days reaching the Islands, thereby causing much anxiety for their safety. Since then he has sailed on many of the fastest boats on Long Island Sound and the Atlantic Coast, and was known as an alert, resourceful, daring sailor, with excellent judgment, and a fine helmsman. Besides these gifts he had those rare qualities of nature that made him the best of shipmates—cheerfulness and consideration for others with a ready laugh and willingness to bear his part of the burden. He will be missed this summer not only by his family, but at the stick of many a yacht, and in many a snug cabin when the day's race is over. There are too few like him to have him pass out without a pang

For the last few years he has been in the sailmaking business and had built up quite a reputation with the sails from his loft.

Narragansett Bay Wakening Up There bids fair to be a revival of the old-time yachting activity on Narragansett Bay this summer that formerly made that body of water famous as a yacht-racing center. Last year the advent of the "P" boat Stranger on the bay did much to awaken interest, and this year that yacht will find one or two boats of the same class that will give her some real work to do. Commodore Kimball of the Rhode Island Yacht Club has purchased the Joyant, and there are rumors that another "P" boat will be on hand when the clubs go into commission. The Narragansett Bay Yacht Racing Association is also considering adopting the universal rule of measurement on the bay, with possibly one or two exceptions in already established classes. This should prove an excellent thing, as it will make possible a wider racing field than heretofore.

SOUTHERN CALIFORNIA YACHTING, in the April number, tells all about the boating activities on the Southern West-Coast



"Valspar for mine, this year"

"The varnish on that boat is Valspar—it's as bright as when I put it on last fall. That boat has been right there all winter—rain, snow and weather do not even turn Valspar cloudy. That's why I use it—because it's really waterproof and lasts. When I put her in commission this spring, I'll give her a couple of coats of Valspar, and she'll be good for the entire season. It's the handiest varnish I have ever used, because it dries quickly.

"Costs a trifle more than some varnishes—cheap at twice the price.

This is the opinion of thousands of yachtsmen all over the country. Ask any user—they are all boosters for Valspar.

VALENTINE'S VALSPAR
The Varnish That Won't Turn White

A 4-oz. sample will be sent on receipt of 10c in stamps to cover mailing and package. Write for our practical booklet on finishing a boat. Keep this booklet for reference—it discusses painting, varnishing, finishing and removing old paint, and contains price list and description of our marine products. Use the coupon.

Name of nearest dealer on request.

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456 FOURTH AVENUE, NEW YORK CITY

Largest manufacturers of high-grade varnishes in the world

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Please send me free booklet "Valspar for Boats" and name of nearest dealer. Also 4 oz. sample of Valspar for which I enclose 10c in stamps to cover mailing. Y-3

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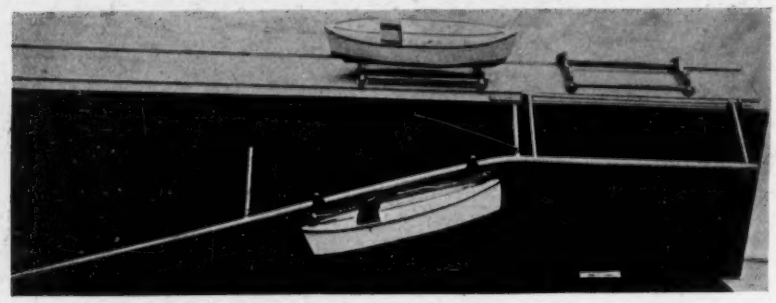
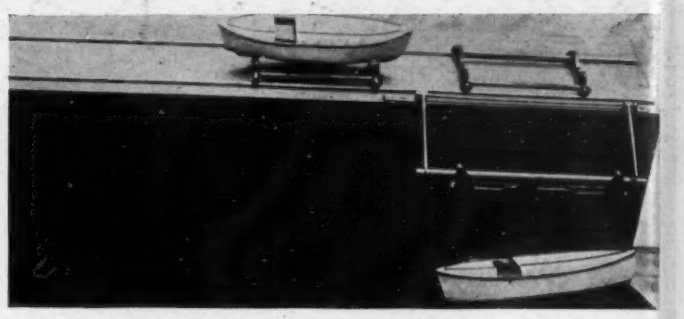
City.....
State.....
Dealer's Name.....

Tear out and fill in carefully or send post card

Consult YACHTING'S Information Department on any of your problems. Its service is absolutely free.



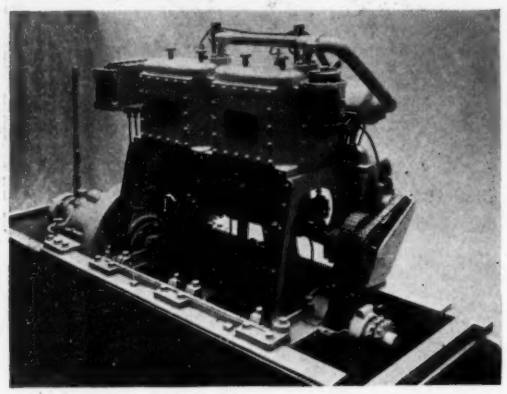
Device for launching lifeboat from a ship by means of a folding inclined rail. Clutch control is in lifeboat



Lowering lifeboat from davit instead of inclined rail. Clutch in boat operates falls

with cement. A very attractive booklet describing this boat can be had from the Holmes Motor Company, of West Mystic, Conn.

The engines that the Holmes Motor Company exhibited consisted of their four-cylinder, 20-25-horsepower, noiseless, chain-drive engine. This was a particularly interesting machine, with the chain drive enclosed in a steel box, thus eliminating noise when running. The other engine was a six-cylinder, 75-horsepower Holmes. Both



Holmes 4-cylinder, 20-25 horsepower noiseless chain-drive motor

are open base engines of long stroke, and have reverse gear, magnetos and all equipment mounted on base or on engine proper.

A LIFEBOAT LAUNCHING DEVICE

Another very interesting exhibit of the Holmes Motor Company was a new type of launching device, invented by them, to ensure lifeboats getting away from a sinking steamer safely. The device is, perhaps, best explained by the accompanying photographs. It consists of a patent davit of two uprights connected by a cross-bar, with the whole swinging in and out from a socket on deck.

This davit lifts the lifeboat off of a track on deck; swings her out between the two uprights until she is fully 15 feet away from the ship's side, where it deposits the boat on an inclined monorail or track, swung out from the ship's side. On this inclined track she is slid down into the water, the speed being controlled by the officer in charge of the lifeboat, there being a clutch in the lifeboat controlling the falls. This monorail swings in to the ship's side when not in use, and is entirely out of the way when at sea or when docking. The boat can also be lowered direct from the davits into the water, control being had also in this case from the lifeboat. There are self-raising hooks on the blocks, so that the boat can not only be lowered but released by those in charge of her.

HAND V-BOTTOM RUNABOUT

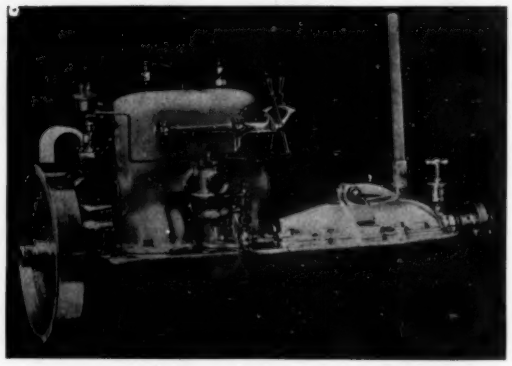
Another interesting boat was the 24-foot V-bottom runabout exhibited by William H. Hand, Jr., of New Bedford, Mass. This little boat, which was built by George Lawley & Son, of Neponset, has a beam of 5 feet 8 inches, and draft to bottom of propeller of 24 inches. She is an extremely able and handsome little boat, with the engine housed under the forward raised deck, access being had to the compartment by hinged hatches. The cockpit is large and roomy, with a 'thwartship seat at the forward end for the helmsman and another at the after end.

The power is a 30-horsepower, four-cylinder Loew-Victor, with rear starter and control mounted on bulkhead. This engine gives a guaranteed speed to the boat of twenty miles an hour—which is plenty fast enough for a 24-footer. For use on rough or broken waters no better type of runabout could be found.

She is painted a lead color, which gives her a very snappy appearance, while all cockpit trimmings are of mahogany.

GRAY MOTORS

The Gray Motor Company, of Detroit, Mich., had one of the largest exhibits of engines at the Show. It consisted of one of each of the following sizes: 7, 14, 21, 36-horsepower model T motors; 6, 9 and 12-horsepower model R, and a 6-horsepower model U. These were all of the well-known two-cycle type. The most interesting features of the exhibit, however, were the new 6-horsepower Baby Grand unit power plant (in-



New 6-horsepower Gray "Baby Grand" motor for yacht tenders, etc.

tended for yacht tender use), and the new four-cycle Gray models. The former of these was brought out to meet the demand for an extra fine engine to be used on the highest class of mahogany yacht tenders.

The cylinders are cast *en bloc*. The base is of aluminum, extended to completely house the reverse gear. Gear covers are also of aluminum, highly polished. The addition of a high-tension magneto makes a complete unit power plant. The fly-wheel is nickel-plated, as well as carburetor and pump. The engine is finished in French gray enamel, making an attractive combination with the nickel plating and highly polished aluminum. More about these two engines can be had by writing the Gray Motor Company, 1308 Gray Motor Building, Detroit, Mich.

The four-cycle motors are a new departure for the Gray Company. They are made in two sizes—the 20-30-horsepower *en bloc* machine with a bore of 4⅛ inches and stroke of 5¼ inches, weighing 600 pounds, and developing its power at 700 and 1,000 revolutions. It is adapted for either an air or electric starter. The six-cylinder model is rated 35-50 horsepower, three cylinders being cast *en bloc*. The six-cylinder size is fitted with Westinghouse electric starter and lighting system, has polished aluminum gear and crank case, and has also controls mounted on the dash at rear of the engine. It weighs 940 pounds complete, and is fitted with Rayfield carburetor.

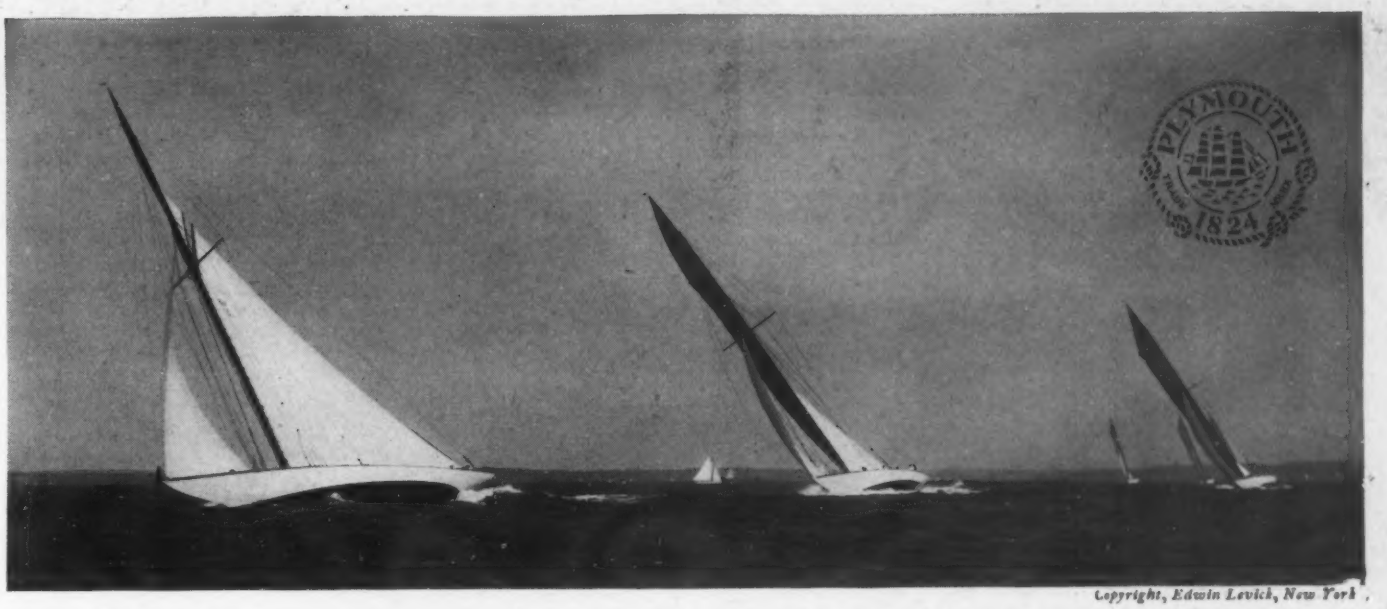
WOLVERINE MOTORS AND A GAS PRODUCER

One of the novelties in the engine line was a producer gas plant attached to a 36-horsepower Wolverine motor of the Wolverine Motor Company, Bridgeport, Conn. The producer plant was of the Galusha model. It is cylindrical in shape and about 5 feet high by 3 feet in diameter. It looks something like a small heating furnace, and in this the gas from coal is generated, scrubbed, cooled and piped to the engine. The space occupied by the whole outfit is inconsiderable, and is easily offset by the great saving in fuel. The producer will burn coal, coke or charcoal, and operate an engine at about one-fifth the cost of gasolene at present prices, according to tests made by the Wolverine company.

Other Wolverine engines that were shown were a 36-horsepower, three-cylinder kerosene-burning engine of a new model, and a 12-14-horsepower convertible kerosene-gasolene, two-cylinder motor of the regular Wolverine type, developing its rating at 400 revolutions per minute.

WILCOX, CRITTENDEN & CO.'S BOAT FITTINGS

One of the most interesting exhibits of fittings and accessories was that of Wilcox, Crittenden & Co., of Middletown, Conn. This company had a number of new devices which will prove extremely useful to the boat owner. Possibly the one that attracted the most attention was the Maxim silencer for muffling the exhaust of the engine. The company claims that tests have proved that this silencer really stifles the noise without any detriment to the efficiency of the engine due to back pressure. The silencer consists of four slotted cylinders and watertight casing made of heavy wrought iron, three end castings and three binding bolts. The four inner cylinders are uniform in length, but graduated in diameter, so that each fits over the other, leaving an open space between. One casting forms the end of the silencer that attaches to the inlet pipe; the other is inserted in the casing and covers the outer ends of the inner tubes forming the whirl chamber. Gases are discharged into the smallest, or inside, cylinder. They cannot escape through the forward end, because exit is sealed by the inner plate. They cannot condense and force their way back into the inlet pipe, so they circle the cylinder, whirling faster and faster, and are whirled out through the two slots in the inner cylinder. Then they bump into a bank of less active gas formed against the inside wall of the next larger cylinder. Here they receive another whirling in the opposite direction. This action continues throughout the four chambers. This reverse spinning from cylinder to cylinder, dissipates their energy, separates the conflicting vibrations, leaving the exhaust noiseless.



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PLYMOUTH-RIGGED FIFTY-FOOTERS, NEW YORK YACHT CLUB, "IROQUOIS II," "ACUSHLA," "PLEIONE"

A Sure-Enough Winner

MOST skippers, when it comes to running rigging, want something extra fine—in looks as well as in strength and wear—it's the same feeling that goes with orderly decks, well-set sails and glistening spars.

Are you that kind? Then you will like Plymouth Yacht Rope.

This rope is made by our best men from the cream of hand-picked Manila fiber—stuff that never gets into any ordinary product. Imagine a line that resembles silk and wears like rawhide and you have Plymouth Yacht Rope.

Naturally it's extra strong. And it handles in a way to bring joy to your heart.

Plymouth Yacht Rope

For ground tackle, just read what we say below.

For Motor Boats

Every boat should always carry reliable anchor lines and ropes for tying-up, towing and the like.

Plymouth Bolt Rope is best for this work. Specially-selected fiber makes it so much stronger and longer-lived than common Manila rope that you can get the same results out of smaller sizes. Saves money, weight and room.

Write for our booklet "Rope Hints For Boat Owners." Gives right lengths and sizes of line for different craft. Tells about proper care of rope and other practical matters.

PLYMOUTH CORDAGE COMPANY
NORTH PLYMOUTH, MASS.

WILCOX, CRITTENDEN & CO.—CONT'D.

Another useful little article that will be sure to appeal to the power boat man is the "Noslack" adjustable drum steering wheel for taking up the slack that always comes in tiller rope, due to the constant stretching. This adjustable drum is made in two parts, one end of the tiller rope being wound around and fastened to each part. The parts are fitted together with a dowel pin. By unscrewing a nut and pulling the front part of the drum out the two halfs can be twisted in opposite directions until the slack of the rope is taken up, when they are pushed together again, a number of holes in one part of the drum receiving the dowel in the other half. The nut in front of the steering wheel is then tightened, and you have just the proper tension of your steering rope. These drums will be supplied by the Wilcox, Crittenden Company, with steering wheels, at a very slight additional cost.

They also exhibited their Navy stockless anchor, auto type, and bridge steerers, etc.

The Wilcox, Crittenden Company get out a very interesting little booklet of their Maxim silencer, which may be had by writing to Middletown, Conn.

LAWLEY RUNABOUT

One of the finest pieces of boat construction at the whole show was the George Lawley & Son's 35-foot stock, mahogany runabout, equipped with a 60-horsepower Loew Victor motor. So fine was the work on this boat that it was almost impossible to tell where the planks joined, the planking looking almost like a single piece of mahogany. This boat has a 6-foot beam with a draft of 2 feet 3 inches. She is double planked, the inside being cedar, the outside, the covering boards, after deck and cockpit being of selected mahogany. The forward half of the boat is decked, the engine being installed just forward of amidships. This leaves a large open cockpit, with a steersman's seat at front end and a 'thwartship seat at after end. The speed, with the engine mentioned, is twenty-one miles an hour.

A FINE DISPLAY OF YACHT CHINA

Higgins & Seiter had one of the most attractive exhibits in the gallery, consisting of a fine line of yacht china and glassware that was attractive enough to make every man wish that he owned a cruiser. All of this china was marked with either the owner's private signal, his yacht club burgee, or the two together, crossed. All of the glassware, including wine glasses, were marked in the same way, with small medallions of the owner's insignia.

There was a very wide assortment to select from, and Higgins & Seiter say that they will make up a set of china or glassware, with the owner's flags, at a very moderate figure. Anyone refitting or furnishing his yacht will be interested in Higgins & Seiter's china.

FRISBIE MOTORS

The Frisbie Motor Company, of Middletown, Conn., showed an attractive line of four-cycle engines that appealed to discriminating owners. There were samples of their complete line, from a single-cylinder 5-7-horsepower to the 50-75-horsepower six-cylinder.

Frisbie motors are of valve-in-the-head type, which the makers claim is the type that produces the most powerful motor, as the explosion is more positive and the scavenging of the cylinder is more complete and more quickly accomplished, it being impossible with the overhead valve for any of the old gas to remain in pockets after the exhaust valve closes. In design the Frisbie motor is very attractive, being simple and self-contained, magneto, coil, reverse gear and oiler all being mounted on the engine or base.

The Frisbie Motor Company also make a kerosene attachment, making their engines convertible, so that they will operate on either kerosene or gasolene. The heating is accomplished by a specially-constructed manifold, the size of which varies in proportion to the size of the motor.

RALACO ENGINES

The S. M. Jones Company, of Toledo, Ohio, exhibited five engines as representative of its line of four-cycle motors, and in design, workmanship and finish they attracted all motor boat men who know what a real engine is.

The engines shown were a 10-horsepower, two-cylinder; a 15-20 and a 25-30-horsepower, four-cylinder, and a 45-50 and a 75-80-horsepower, six-cylinder. The 45-50-horsepower was seen for the first time at the Show, and was an exceedingly attractive, heavy-duty engine, with a bore of 7 inches and a stroke of 9 inches, the speed range being from 150 to 425 revolutions per minute. The engines are unusually simple in design, there being but very few working parts, the valves being in the head and the manifolds cast integrally. Reverse gear, magneto and all engine equipment are mounted on one base, while a splash system of lubrication makes that part of the equipment very simple. The oil is automatically maintained at a constant level in each crank case compartment.

The Ralaco engines are a heavy-duty and medium-speed engine, no high-speed, lightweight motors being built by the company.

SOME INTERESTING BOAT FITTINGS AT DURKEE'S

The exhibit of marine hardware of C. D. Durkee & Co. as usual kept the aisle in front of their booth pretty well blocked with people. There is nothing like marine hardware to attract the boat owner. They had as many devices this year to interest as heretofore, one of which was the Andrade automatic windlass, which has but four moving parts, and gives one man absolute control of his ground tackle at all times. This is particularly adapted for yacht use, and with it a large anchor can be handled with the utmost ease. It takes up very little room and is extremely powerful.

There was a full line of marine plumbing set up in the little room back of the Durkee booth. Other interesting articles were a Patterson trap ventilator, Durkee's Reliable fire extinguisher, all kinds of steering gear and wheels, cowl ventilators, many different patterns of running and anchor lights, and the thousand-and-one other things necessary on a boat. What is more, they were all good.

FEATHERING PROPELLERS FOR THE AUXILIARY

The Noyes Machine Company, of South Portland, Me., caught the sailing man's as well as the motor boat man's eye by exhibiting a feathering propeller, which they demonstrated in a big tank of water at the back of their booth. This propeller is entirely automatic in its action, the blades swinging into the ahead position when the motor is started ahead, into the backing position when engine is reversed, and automatically feather when engine is idle and boat is under headway.

It fills a long-felt want, as the auxiliary with a propeller that will not drag is the most economical craft to operate, being able to get the full benefits of the wind as long as it lasts, and when the wind fails, or on entering harbor or docking, the power is all ready to use to the best advantage. This propeller is made in nine different sizes of hub, each with three or more different diameters of blades. They are made with any desired pitch. If at any time the pitch is not found suitable it is a simple matter to decrease it by removing part of the metal of the lugs or stops.

AN EFFICIENTLY ELECTRIC-LIGHTED COMPASS

The Marine Compass Company, of Bryantville, Mass., had a fine little compass at the Show that caught the eye of every man who has ever navigated his boat at night.

Instead of having the compass card lighted from the top, where the reflection of the light on the glass makes it difficult to see the lubber's line and the card, the compass is lighted from the bottom by means of a small electric light bulb, the current for which is supplied by dry batteries. There is a special attachment on the bottom of the compass bowl into which the bulb is screwed.

There is an aperture in the compass card which permits the penetration of light upward, which strikes the cover or reflector, throwing the light downward onto the face of the card, making a diffused light. The compass thus equipped not only does not require a lighted binnacle, but enables the helmsman to steer a long trick at the wheel without the accompaniment of aching eyes. It is made in four sizes, from 2½-inch to 6-inch cards.

Another interesting instrument which this company showed was a course protractor that will be a great boon to the navigator. This consists of a heavy-weighted dial, marked with the points of the compass and degrees, just as a compass card. To this is attached a movable arm, and at the end of this arm is a cross-ruler hung in the center and movable. Two hands, or pointers, on the face of the dial move in such a way as to always be parallel with the protractor arm, so that after the dial is once set on a known point of the compass, say N. and S. or E. and W., any movement of the cross-ruler will be marked by the hands on the dial. A look at the accompanying drawing will show how this works. Suppose one wishes to find the course between the two buoys X and Y. Place the dial D on the chart so that the celluloid rule A may reach the two points X and Y when the arm B is turned. Turn the knob C and move the arm B so as to bring the ruler A up to the compass rose printed on the chart. The ruler is placed on some easily recognized point, as East and West (Fig. 1).

Turn the dial D by means of the thumb nut at the top, so that the reading under the two little pointers is also East and West, the ruler being kept in its position on the printed rose while doing this.

The protractor is now in adjustment, and the direction of any position of the ruler is automatically given by the two movable pointers over the dial. The dial is to be kept fixed by keeping the fingers pressed on the knob at the top of the dial. For example, swing the ruler around to the position shown in Fig. 2, so that the ruler touches the two points X and Y. The course will be shown on the dial by the two pointers.

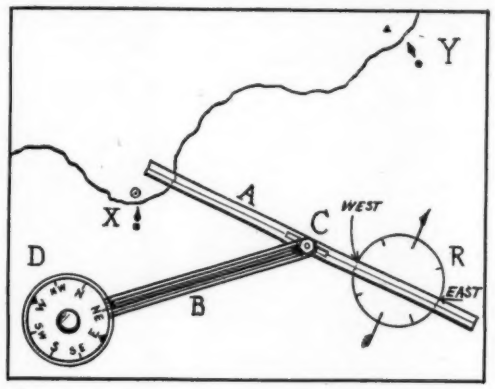


Fig. 1

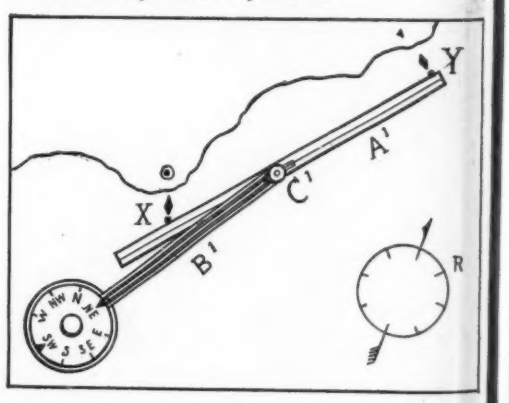
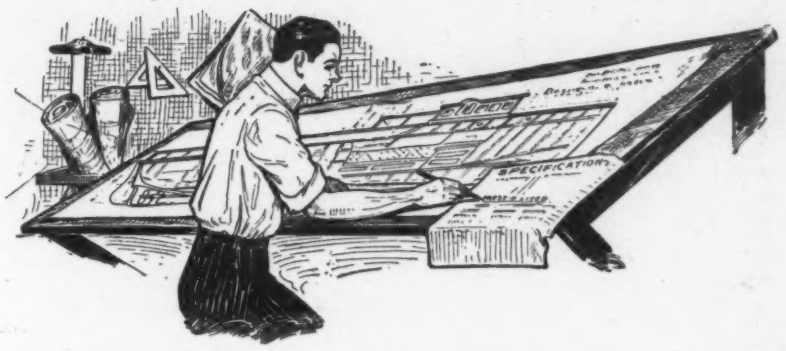


Fig. 2

A handy and efficient course protractor



Consider Lighting When Your Boat Is Designed!

The Lighting System may rob your boat of speed—cause you endless trouble or expense—expose you to danger if it fails.

Prest-o-Lite

Does not consume engine power—running a lighting dynamo uses power which you need. Electric lighting robs your boat of speed.

Prest-O-Lite has proved its absolute reliability—its freedom from trouble—its efficiency under all marine conditions.

Don't expose yourself to constant care and expense of delicate and complicated lighting apparatus—clutter up your boat with dynamo, batteries, shunts, switchboards and delicate connections.

Prest-O-Lite in different sizes gives ample light for any size boats. The gas may be turned on and off like city gas. It is in use on the finest boats for searchlight, port and starboard lights and cabin fixtures.

It is simple and easy to install—there are no repairs. The Prest-O-Liter makes it easy to light or extinguish any or all your lights by "push-the-button" convenience. The gas lamps are easy to disconnect if you wish to remove them during the day. Any oil lamp may be made into a combination gas and oil lamp in a few moments with the Prest-O-Lite Oil Lamp Adapter.

GET COMPLETE INFORMATION

Whether you are designing a new boat or overhauling your present equipment, get the facts about ALL lighting systems. They will save you time, money and trouble. The coupon or a postal card brings them.

The Prest-O-Lite Co., Inc.

238 Speedway, Indianapolis, Ind.

Exchange Agencies Everywhere

THE PREST-O-LITE CO., Inc.

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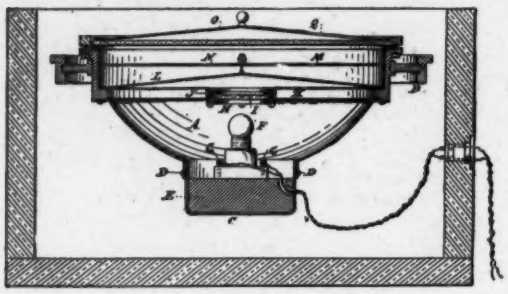


Electric-lighted compass, with bulb beneath the card, giving a reflected, diffused light

AIR PUMPS AND BOAT FITTINGS AT TIEBOUT'S

No one made the circuit of the gallery without stopping at the booth of W. & J. Tiebout, of 118 Chambers Street, New York City. On the counter a Star air pump was hard at work pumping a whistle tank full of air. It only ran continuously because the operator kept blowing off the pressure from the tank, for these little pumps are automatic, and will stop when the air in the tank gets beyond a certain pressure, say 75 pounds. They also showed the Star bilge pump. These pumps are made in several sizes to fit any shaft from ⅝ inches to 3 inches in diameter. A full line of marine hardware and boat fittings, including lights, compasses, flag-pole sockets, cleats, chocks, etc., was also exhibited.

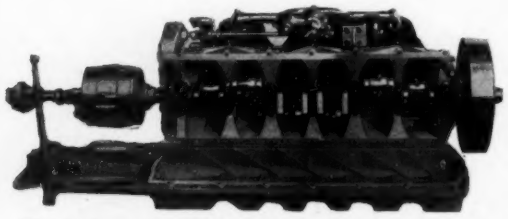
One of the interesting novelties was the new Phinney-Walker keyless clock for motor boat and yacht use. The face of this clock was in the form of a boat's steering wheel, around the outside rim of which were the spokes, and the clock was wound by merely turning the spokes as one would put a wheel hard over.

W. & J. Tiebout is one of the oldest marine houses in the East, and has handled and made all kinds of galvanized brass and bronze marine fittings for many years.

THE STERLING "DREADNAUGHT" AND OTHER MODELS

One of the centers of attraction at the Show was the eight-cylinder "mammoth" exhibited by the Sterling Engine Company and shown in the illustration herewith. This unique engine is rated at 300 horsepower, has a bore of 8¼ inches and a stroke of 10 inches and weighs 7,000 pounds. It has a range of speed from 500 to 800 revolutions per minute. It was designed and built for heavy-duty express cruiser work, and is the first engine of this type to be built. It has no fly-wheel and is started by air. A large governor controls this big engine in the same efficient manner as a steam plant. The oiling system is automatic, and a large sight feed container is placed at the front of the motor so that the operator can see that enough oil is being supplied to the engine. Two separate sets of ignition are used, both operated by Bosch magnetos.

Besides this big engine the Sterling Motor Company had a fine line of four-cycle engines, including the 20-35 and 30-50-horsepower engines, four-cylinder models, and a six-cylinder 45-75-horsepower. The lower figures indicate the power developed with the engines running at medium speed, and the higher ones that developed when run at the maximum number of revolutions for which they are designed. These engines are



The business end of the 45-75 horsepower, 6-cylinder Sterling motor

designed as a unit power plant, and all parts are mounted on engine or base; the reverse clutch, gears, etc., being entirely closed, while the magneto is placed high enough to prevent its ever being reached by water.

One of the most interesting engines at the Show was the big Sterling six-cylinder with the base opened and the engine turned on its side, exposing pistons, crankshaft, connecting rods, bearings, gears, etc., and demonstrating the high quality of the material used in Sterling construction and the excellent workmanship that goes into all of their engines. In no better way could one get an idea of the value of material and workmanship than this.

Another engine that the Sterling Company showed was the 10-horsepower, four-cylinder "Sterling Kid," intended for driving high-grade yacht tenders. One of these engines was mounted on a stand and the other installed in an 18-foot Matthews yacht tender.

Among the boats at the Show that were

The 300 horsepower, 8-cylinder Sterling "Dreadnaught" for express cruisers. Weight only 7,000 pounds

equipped with Sterling engines may be mentioned the following: The big 50-foot Matthews' cruiser, the 18-foot Matthews' yacht tender, the big 51-foot Luder's day cruiser, the 26-foot Mullins' steel runabout, and others of the Mullins' fleet.

EVINRUDE DETACHABLE MOTORS

It did not need the flags that profusely decorated the Evinrude booth to attract attention to this efficient little power plant, that is made to operate hung over the stern of a rowboat, canoe or small working boat.

Two sizes of Evinrude motors were exhibited—the 2-horsepower regular and the 3½-horsepower for commercial use. The larger one differs somewhat from the smaller, in that it has a rudder attachment. This feature was added particularly where the engine is to be used as auxiliary power to sail, so that one can leave the motor in place and still handle the boat under sail by means of the rudder.

One of the additions to the Evinrude equipment this year is a reversible magneto built onto the engine. It does not take up any additional space, as it is mounted within the fly-wheel. There is but one movable part to the magneto, and the contact points are self-cleaning.

A new Evinrude factory has recently been placed in operation, and it is fitted with machinery and facilities for turning out 60,000 of these little motors a year.

NAVALITE AT THE SHOW

The Chicago Varnish Company evidently believes in strong contrasts, for instead of the very attractive young lady, dressed in sailor costume, that handed out Navalite literature last year, the company went to the other extreme, and had a small black boy, very "dark complected," who performed the same operation this year.

The Chicago Varnish Company made all sorts of tests with its varnish for marine uses to show that it would not turn white. These consisted of boiling tests, water tests, etc. Among the points claimed by the Chicago Varnish Company for its spar varnish "Navalite" are that it is easy flowing, quick drying, has long life, and does not gum the brushes, while it withstands the action of fresh and salt water and the sun. Cabinoleum, for interior work, is a particularly good varnish for boats and yachts. Among the boats that the company say were varnished with Navalite last year were the new 50-foot class of the New York Yacht Club.

A NEW CRUDE OIL ENGINE FOR 1914

The Remington Oil Engine Company, of 120 Broad Street, New York, are producing the Clark-Commercial crude oil and kerosene (coal oil) engine, with the idea of offering at a very reasonable price an engine of strong construction, with extra large bearing surfaces, and the simplest and most effective form of lubrication, which will operate on cheap oils, with an ordinary amount of attention, and make an actual yearly saving for the owner. The Remington Company believes that no oil engine operating so successfully on cheap oils has yet been offered to the public.

The Clark-Commercial Oil Engine has many points in its favor both for land and sea use. Not the least important of these is the extremely low maintenance cost. The use of crude oils and kerosene, added to the economy effected by the cycle of the engine, brings the fuel cost to a fractional part of the cost of either gasolene or coal. Extreme simplicity of construction not only makes it possible for the owner to thoroughly understand the engine he is running, but it also greatly reduces the probability of a breakdown, and makes necessary repairs inexpensive.

Certainty in starting and operating continuously without missing ignitions is a special feature claimed for this engine. It is built in both marine and stationary models, in sizes ranging from 3½ to 200 horsepower.

KOVEN TANKS

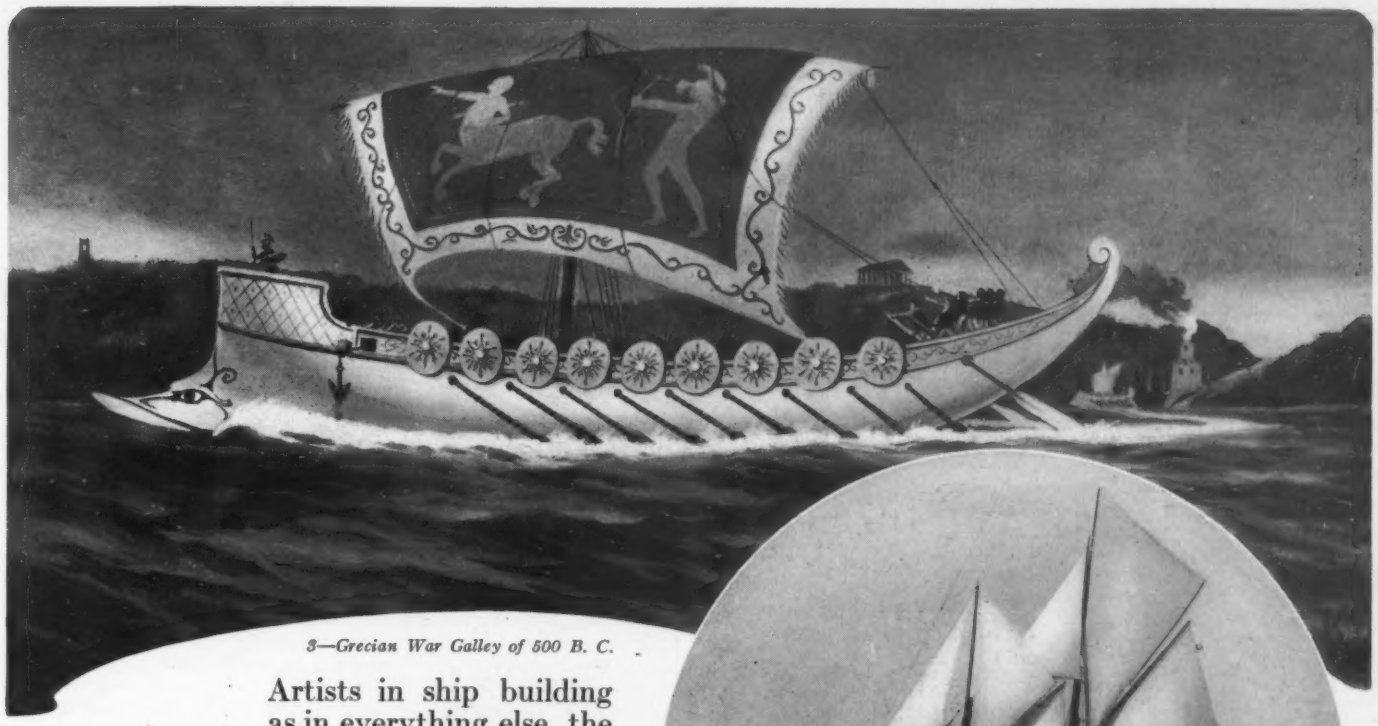
Every man that was interested in tanks for carrying his gasolene or water, stopped in front of the L. O. Koven & Bros. booth, where there was exhibited a full line of gasolene, air and water tanks of every shape imaginable—square, oblong and cylindrical. The tanks were made of galvanized iron or copper, so that they are rust proof, are fitted with baffle plates, and conform to recognized standards of strength and safety. The company say that they will make tanks to fit any shape of hull desired.

MONARCH SPAR VARNISH

Charles H. Gillespie & Sons, who for over 90 years have been manufacturing varnish, the business being started in Troy in 1824, exhibited an excellent line of Monarch varnishes, the Monarch spar varnish being particularly interesting to boatmen. This is a standard preparation, carefully made after a formula which has proved extremely efficient, and meets all requirements that varnish is called upon to stand.

At the Show Charles H. Gillespie & Son distributed some novelties in the form of a distance finder, workable on any Government chart issued, and a gasolene gauge for measuring gasolene in a tank. Thousands of these were given out, and their owners consider them invaluable. They will be gladly furnished to anyone sending 4 cents to cover postage, together with a treatise (No. 5) on how to refinish motor boats—a booklet full of valuable information. These can also be had by calling at the Gillespie & Son booth at 30 Church Street, the Terminal Building, where a practical demonstration of Monarch varnishes can be had.

Charles H. Gillespie & Sons also manufacture Monarch Bull Dog paint and varnish remover



3—Grecian War Galley of 500 B. C.

Artists in ship building as in everything else, the Greeks produced the most graceful vessels of ancient times. Light, with slender beam and shallow draft, their war galleys or "long ships" sped through the blue waters of the Aegean at seven or eight knots an hour. The sharp prows often splendidly carved in the form of boar's head or dolphin. Sails were brilliant with color and handsome decorations, and were bound with strips of hyena skin.

The striking contrast between these and the finest of modern sails is shown in comparison of the Grecian ship with the racing yacht Elena fitted with

Schooner Elena 1914

Trade Mark

LOWELL DUCK

Reg. U. S. Pat. Office.

"THE STANDARD YACHT SAIL CLOTH"

For many years Lowell Duck has been carried by all the fastest boats. Famous winners in every class have used it.

Lowell Duck will be used on all three contestants for defense of the America's Cup.

Whether your sail boat measures nine feet or ninety, why not have your next set of sails made from Lowell Duck. It is the lightest, strongest, longest-wearing fabric you can get. Regular for cruising, special for racing.

Ask your sailmaker to show you the Lowell Duck trade mark on the end of the roll

BOSTON YARN COMPANY

BOSTON NEW YORK

cream. It is a slow-drying, non-evaporating remover that works instantaneously, and the makers say the most difficult paints, enamels and shellacs can be removed with this preparation in any weather.

Monolac, in colors, is another preparation, especially made for interior woodwork of motor boats, giving a very high luster and beautiful finish to all interior surfaces where durability is required.

Monarch engine enamel has the faculty of making old engines look like new, and is manufactured in all the principal shades.

WATERMAN MARINE ENGINES

Waterman marine engines were not only seen in a number of boats at the Show, but were exhibited by the company's Eastern representatives. A 2½-horsepower single-cylinder and a 5-horsepower double-cylinder were shown, each 2¾ inches x 3 inches bore and stroke. These were very lightweight engines, with aluminum base castings and copper water-jackets, and developed their power at high speed. The 5-horsepower only weighs complete 60 pounds.

The Waterman Outboard, or Porto Motor, is a single-cylinder engine of the same bore and stroke as the ones just described and rated at 2½-3-horsepower. One of the greatest improvements in this outboard motor is the use of a waterproof type of Bosch high-tension magneto, doing away entirely with the coils, batteries, etc., making the outfit entirely self-contained.

VALSPAR VARNISH

Valentine & Co., makers of the well-known Valspar varnish, again caught the crowd with comparative tests of Valspar and other varnishes to demonstrate that Valspar would not turn white. Valspar has long been a particularly popular varnish for yacht use, and the company claims that three full coats properly applied will last throughout the whole season. It dries, dust free, in two hours and dries hard over night.

Besides Valspar marine varnish the company had a line of its other productions, including enamel paint, bottom paint and various kinds of wood fillers.

PYRENE FIRE EXTINGUISHERS

Knowing that every man that goes down to the sea in a motor boat is interested in fire-fighting appliances, the Pyrene Manufacturing Company, of New York, proceeded to demonstrate how effectively Pyrene can put out a fire. Starting a little blaze in the booth the operator would stand off at a distance and see how good a shot he could make at the blaze with the squirt-gun extinguisher. His aim was good because he put the fire out every time. It is wonderful what this little Pyrene cylinder with a plunger pump mechanism will do in putting out fire, no matter where located. Brackets are now provided on the extinguishers for holding them against a bulkhead or side of the cabin.

HYDE PROPELLERS AND WINDLASSES

The exhibit of the Hyde Windlass Company, of Bath, Me., attracted so many motor boat "Bugs" and sailing yachtsmen that one could hardly get near enough to the booth to talk to Mr. Andrews or to the genial salesmen.

The strong-armed man who hammered up Hyde wheels on an anvil last year to show their toughness was absent this year; but instead there was a very attractive line of Hyde propellers of all types, two and three-bladed, and in addition a number of yacht windlasses, small capstans, pneumatic clutch controls for motor boats, etc. The Hyde Windlass Company make the well-known turbine type of propellers which are used extensively in the navy as well as on countless motor boats the world over.

DEVOE PAINTS AND VARNISHES

Paint and varnish makers exhibited in unusual numbers at the Garden, showing how important is this feature of the motor boat sport. Each exhibit, however, had something novel to offer. F. W. Devoe & C. T. Raynolds Company made a special display of their Vernosite spar, Cabinite interior and other varnishes, Holland yacht enamel and metallic copper paint. In fact, one can get from this company every kind of paint and varnish to properly put his boat in commission from keel to truck. The various samples were attractively displayed.

MULLINS' STEEL AND WOODEN BOATS

The W. H. Mullins Company, of Salem, Ohio, had a big fleet of boats at the Garden that made a hit with all those interested in runabouts, small-speed boats or open launches. In all, the Mullins company had eight boats at the Show. These included a 26, an 18 and a 16-foot steel boat and a little 16-foot steel hydroplane with a guaranteed speed of 28 miles. This boat was a duplicate of the little Scat which won so many races last summer.

The Mullins Company has recently added to its products a line of wooden boats. Four of these were shown at the Garden—a 25-footer, 21-footer and a 17 and 19-foot V-bottom boat for fishing and like purposes.

The Mullins boats show fine workmanship and finish, and are well modeled for the purposes for which they are intended. They meet the demand for a light, safe craft for runabout purposes.

TOPPAN DORIES

The Toppan Boat Manufacturing Company, of Boston, Mass., had two of their power dories at the Show; one a very handsome 22-footer with 6-foot beam and extra strong construction of the Toppan standard, trimmed with oak and deck and interior finished bright. She was powered with a 6-horsepower Gray motor, which was installed in a small cabin house at the after end of the cockpit. She was fitted with spray hood, cushions, etc., and was a fine little boat for knocking about, yet was so well built and finished that one would be proud of her anywhere.

The other boat shown was the little 16-footer with a 2-horsepower engine, which makes an excellent boat for fishing and general utility purposes.

BRIDGEPORT MOTORS

Right in the center of the Garden the Bridgeport Motor Company, of Bridgeport, Conn., had a big line of the "motors that mote" made by this company. It included all the sizes, from 3-horsepower single-cylinder to 27-horsepower three-cylinder, all of the two-cylinder three-port type. All were interesting, but perhaps the one that attracted the most attention was the 27-horsepower three-cylinder that operates on kerosene. This is a heavy-duty motor, 6½ inches x 7 inches, at 400 revolutions per minute. The kerosene is used in a regular float-feed carburetor, the air being heated by means of a jacket around the exhaust manifold. This year all of the Bridgeport motors are fitted with magnetos.

LUXEBERRY SPAR VARNISH

Berry Bros., of Detroit, Mich., in order to prove to the passerby that their Luxeberry spar varnish is waterproof, had as part of their exhibit a number of water tests, showing how successfully the varnish withstands salt or fresh water and remains bright under the severest conditions.

Berry Bros. have been making marine varnish for fifty-five years, and this long experience is a recommendation it itself. They also cite countless cases where their varnish has "stood up" under the most trying conditions. In addition to varnish the company showed other products of their factory, such as Luxeberry white enamel, Apex varnish remover, etc.

OTHER EXHIBITS

Among other exhibits was that of the Elco Company, formerly the Electric Launch Company, which had a fleet of runabouts and a 45-foot cruiser that attracted much attention. The Matthews Boat Company exhibited a 50-foot double-cabin cruiser; Luders Marine Construction Company had a handsome 51-foot cruiser.

(Continued on page 196)

How to Buy Intelligently

(Continued from page 150)

equipment is included; otherwise you may find yourself "let in" for some $100 worth of extras, such as carburetor, magneto, stern bearings, reverse gear, coils, etc. More and more standard practice is coming to include *all the* necessary fittings, including magneto and reverse gear mounted on the engine bed. Yet one will see misleading advertisements of an engine at an extremely low price that reads well to the uninitiated; yet by the time that he has tacked on $100 worth of "extras" necessary to make the engine run he feels that he has been badly used—as, in fact, he has. The hundred dollars added to his original price would have bought a first-class engine from a reliable maker.

In the choice between jump spark and make-and-break ignition there is also much to be said on both sides. As a general rule, make-and-break is only used on slow or medium-speed engines, jump spark being used for high speed. If the engine is exposed, or is not under the deck, make-and-break is the best, as it is not affected by water, while for a well-protected engine the jump-spark system is preferable, as it uses less current and is quieter.

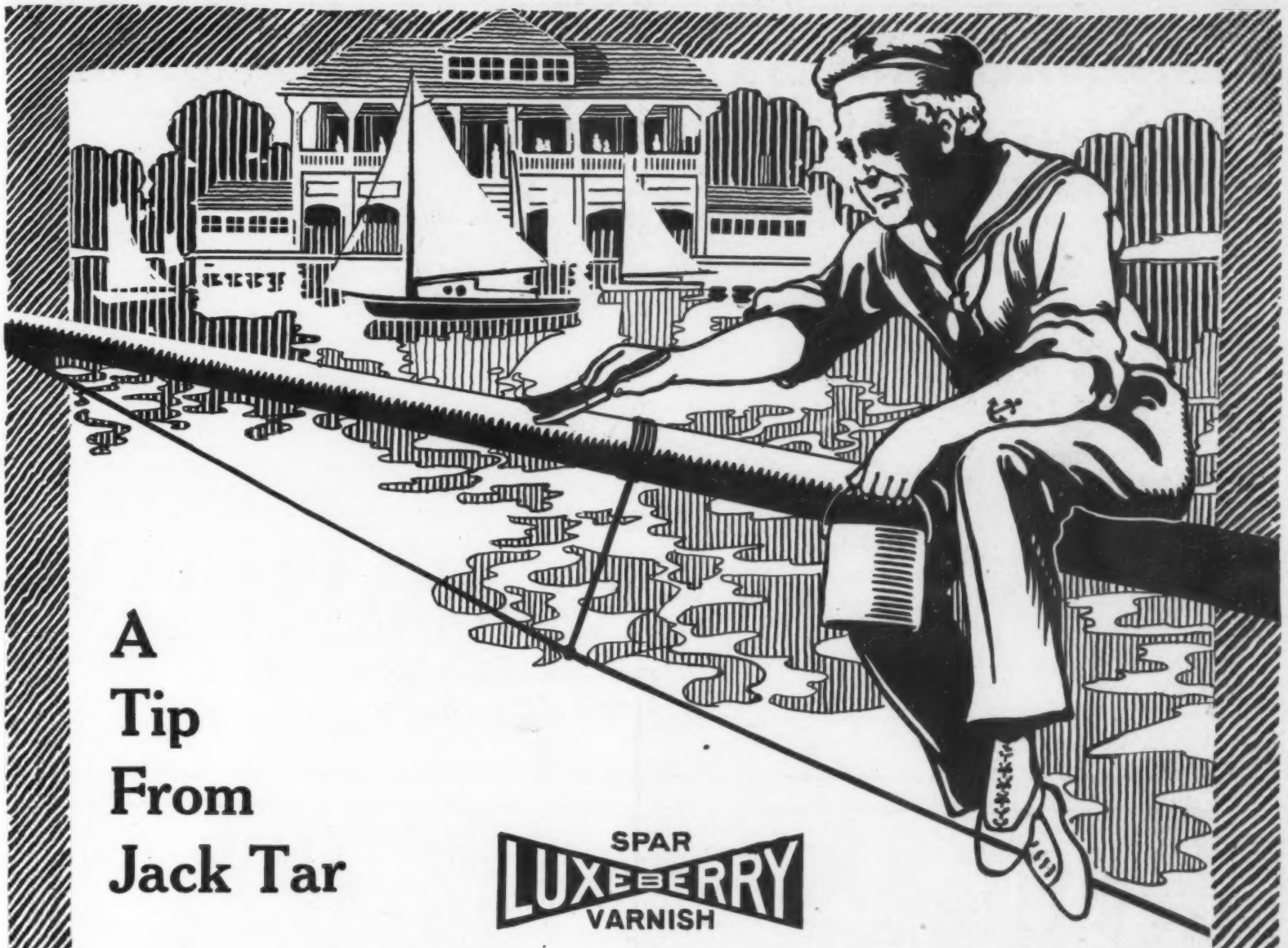
The make-and-break system is mechanically operated, so see that the mechanism is simple and the parts well made, of good material, and of ample size to stand the strain. See that the spring is heavy enough and that the mechanism snaps off quickly and sharp. Sparking points should also be of generous size and of the best material (platinum) to stand the constant hammering and the heat of cylinder and spark. A soft point will hammer out flat and quickly become pitted from the heat. The pit holes will fill up with carbon, which will be hammered in by the contact until a carbon is formed and the engine begins to miss or stop. Some make-and-break mechanisms will run a season without cleaning, while others will have to be cleaned every trip.

The jump-spark system uses a high-tension current and a spark coil. By all means, keep away from the cheap coils and get one that is made by a reliable firm, with large platinum points and pood adjustments to the vibrator.

Examine the parts that do the work; note the size and construction of the connecting rod, wrist pin, crankshaft, etc. Look at the bearings; see that they are large and well made. The kind that has the wrist-pin bearing on the connecting rod with the wrist-pin fastened into the piston is better than the kind that has the wrist-pin fastened to the connecting rod with the pin itself loose in the piston. The piston receives some pretty hard shocks by the explosions, and this shock is delivered through the wrist-pin and connecting rod to the crankshaft. When the one that has the wrist-pin loose in the piston begins to wear it makes an oval hole in the piston. This makes a bad job to repair. When the one that has the bearing on the connecting rod begins to wear the bearing can be taken up.

Accessibility is also another point that should be taken into consideration in buying an engine. Some engine builders put their engines together with special wrenches, and the clearance around the bolt heads is so small that it is nearly impossible to get at them with a wrench or the ordinary tools that are aboard of a boat. Hand-pole plates should also be of large size, and in a well-designed engine one should be able to get at most of the vital parts without having to take the engine all to pieces. You should be able to get at the valves, and the valve springs especially, without taking the engine down.

Just remember the warning at the beginning of this article, that reputation and name count for a whole lot, and that a reliable make of engine, with a factory behind it, is more than worth the difference in price of one that is thrown together to sell on the basis of false advertising claims.



A Tip From Jack Tar

SPAR LUXEBERRY VARNISH

Forty years' experience has taught Jack Tar the real worth of Berry Brothers' Luxeberry Spar Varnish.

He knows that no storm or hard weather can dim its lustre or make it turn white. He has seen the blistering sun beat down on decks finished with Luxeberry Spar and never leave a sign of a crack or check.

So he never hesitates to tell his friends on land or water that Luxeberry Spar is the only varnish to use when wood must withstand a water and weather exposure.

BERRY BROTHERS' VARNISHES DETROIT

When you have exterior varnishing to do whether it be a canoe, your new porch ceiling or your front door, do it the safest way, use Berry Brothers' Luxeberry Spar.

ASK YOUR DEALER ABOUT LUXEBERRY SPAR OR WRITE US DIRECT

Factories:—
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World's Largest Varnish Makers

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is what you should have to modernize your craft's furnishings.

How widespread the custom and how exceptionally equipped we are to provide for your Yacht a Table Service with decorations adapted from your monogram, club insignia, private signal or colors, are both perhaps best shown by the long list of Yachts we have equipped. Included are—

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YACHTS	OWNERS	YACHTS	OWNERS
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THE UNITED STATES EQUIPS

THE SURF BOATS OF ITS

LIFE SAVING SERVICE

WITH

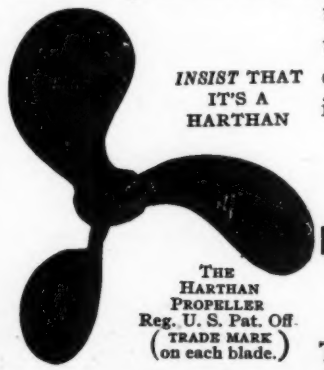
GENUINE HARTHAN PROPELLERS

Where lives are at stake one doesn't take chances, and the selection of these propellers in preference to all others for so important a responsibility where absolutely uniform reliability and dependability are all important, speaks for itself.

All Genuine Harthan Propellers, whether for

SPEED, CRUISING or TOWING,

measure up to the highest possible standards. They are the wheels for those who want the **best.** They are no more expensive than most goods of inferior quality.



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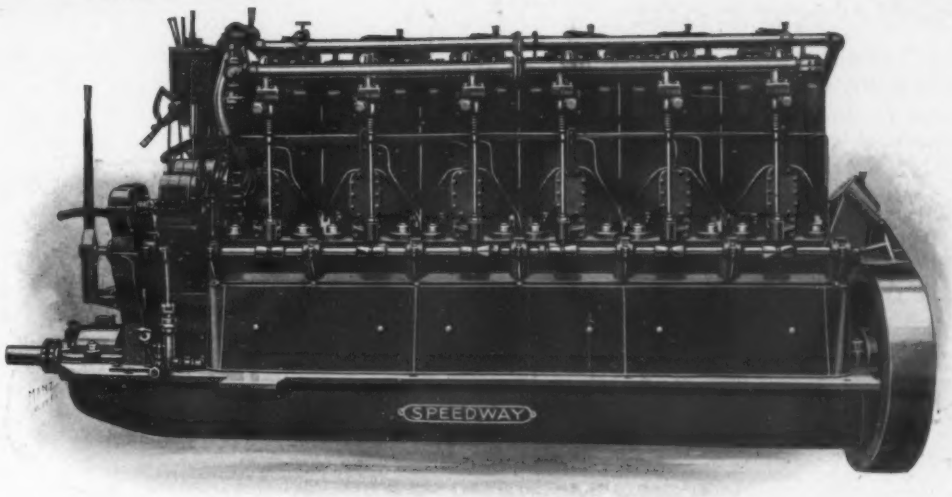
THE HARTHAN PROPELLER Reg. U. S. Pat. Off. (TRADE MARK on each blade.)

[*Send for Catalog to*

McFARLAND FOUNDRY & MACHINE CO.

TRENTON NEW JERSEY

Speedway Gasolene Engines



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MAXIM MOTOR BOAT SILENCER

To enjoy life you own a motor boat. To enjoy a motor boat you should have a Maxim Silencer. The same principle that eliminates the crack of a rifle, annihilates the ear and nerve killing racket of your motor boat. ¶ The Maxim Silencer is not even an outgrowth of the muffler idea. As one man put it, "The Maxim Motor Boat Silencer is a ***NOISE TRAP***—not merely a gas trap." See the difference! One stifles the noise but at the same time slows down your engine. The other—***THE SILENCER***—is light and clog proof. There's no such thing as back pressure. ¶ It's the most revolutionary device motor boating has ever known. A demonstration will surprise you. ¶ Send for descriptive literature, mentioning diameter and number of cylinders and also size of exhaust outlet.

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It is not Big and Costly

but it swallows this *Chug* stuff alive

CHUG CHUG CHUG CHUG CHUG CHUG CHUG CHUG CHUG CHUG

A BETTER ENGINE

Makes a Better Boat

Don't Let Engine Troubles Mar the Success of Your Power Yacht

Many an owner loses interest in his Power Yacht **because of engine troubles**—and sells the entire outfit—often at a big loss.

We know an easier remedy, and a better one. Don't discard the **boat.** Keep it, and increase its value, and your peace of mind and enjoyment, by taking out the unsatisfactory engine and installing in its place one of our splendid

WINTON
MARINE ENGINES

Able judges of marine engine practice are enthusiastic about these superb engines. They declare that Mr. Winton has created something entirely new in marine engines—something wholly superior to other types—the kind of engine that will henceforth be demanded by owners of fine yachts.

Make the 1914 season delightful for yourself and your friends by having one of these magnificent Winton Engines in **your** boat. You will find that it banishes engine troubles, increases the value of your yacht, and gives you a sense of confidence and satisfaction that is worth more than money.

We can have **your** engine ready early in the spring, if you get in touch with us at once.

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2120 West 106th Street, Cleveland, Ohio

SHIPMATE RANGES

10 SIZES 11 STYLES

In a letter received by us in January last from Mr. Thomas Fleming Day (Rudder), is this paragraph:

"I just had a letter from the designer of Viola 11, who wants me to take a trip with him in February, and in it as one of the inducements he said, 'We have a four-hole Shipmate range and plenty of coal'."

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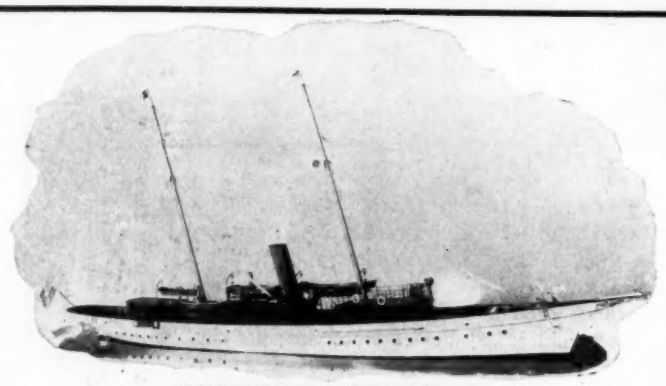
THE STAMFORD FOUNDRY COMPANY

Established 1830 STAMFORD, CONN.



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Steering Gears

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KRICE Carburetor 20% More Power

30 DAYS TRIAL

We absolutely guarantee the Krice Carburetor to use less gasoline—give better control and 20% more power. Your money back if it doesn't.

The only sure way to know that you are getting *all* the power from your engine is to try a Krice Carburetor.

Write to-day for literature.

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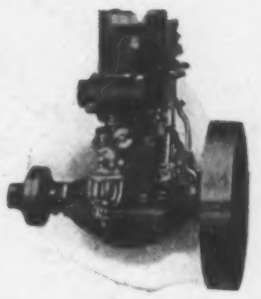
Sturdy **MIANUS MOTORS** *Powerful*

SIXTEENTH YEAR GUARANTEED FOR LIFE

SPECIFICATIONS

H. P.	Number of Cylinders	Cycle	Ignition	Port	Bore	Stroke	R. P. M.	Diameter Crank and Crank Pin	Weight	Price
3	1	2	m.&b.&j.s.	2 or 3	4″	4	550	1¼″	175	$76.50
5	1	2	"	"	4⅝″	5	500	1¾″	280	110.00
7½	1	2	"	"	5 9/16″	6	450	2″	415	150.00
10	1	2	"	"	6½″	7	375	2 7/16″	675	200.00
6	2	2	"	"	4″	4	550	1¼″	300	165.00
10	2	2	"	"	4⅝″	5	500	1¾″	500	230.00
15	2	2	"	"	5 9/16″	6	450	2″	750	310.00
20	2	2	"	"	6½″	7	375	2 7/16″	1170	400.00
30	3	2	"	"	6½″	7	375	2 7/16″	2000	700.00
6	1	2	j. s. only	"	4⅝″	5	800	1¾″	270	98.50
12	2	2	"	"	4⅝″	5	800	1¾″	385	200.00



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NICKEL finish.
DROP-FORGED cranks and connecting rods.
FAHRIG METAL connecting rod bearings
IRIDIUM spark points.
Springs of IMPORTED WIRE.
FLANGE COUPLINGS.
Large bearing surface.

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THOMPSON AUTOMATIC FEATHERING PROPELLER

For Auxiliaries

STOPS THE DRAG OF THE SOLID WHEEL

Works to Perfection

TRY ONE ON YOUR MOTOR TENDER

NOYES MACHINE COMPANY

257 Front St. SOUTH PORTLAND, ME.
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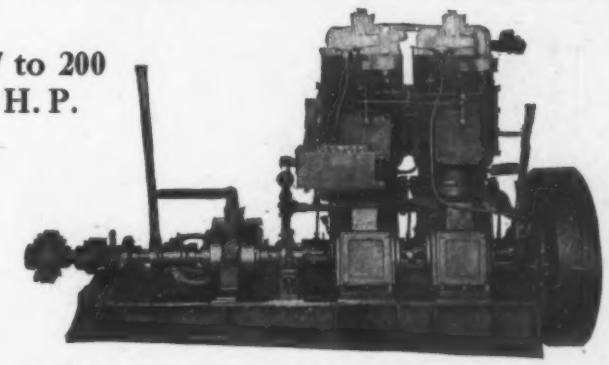
Remington Oil Engines

7 to 200 H. P.



"WITHOUT AN EQUAL FOR SIMPLICITY"

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Remington Oil Engines have the following advantages for Marine Work:

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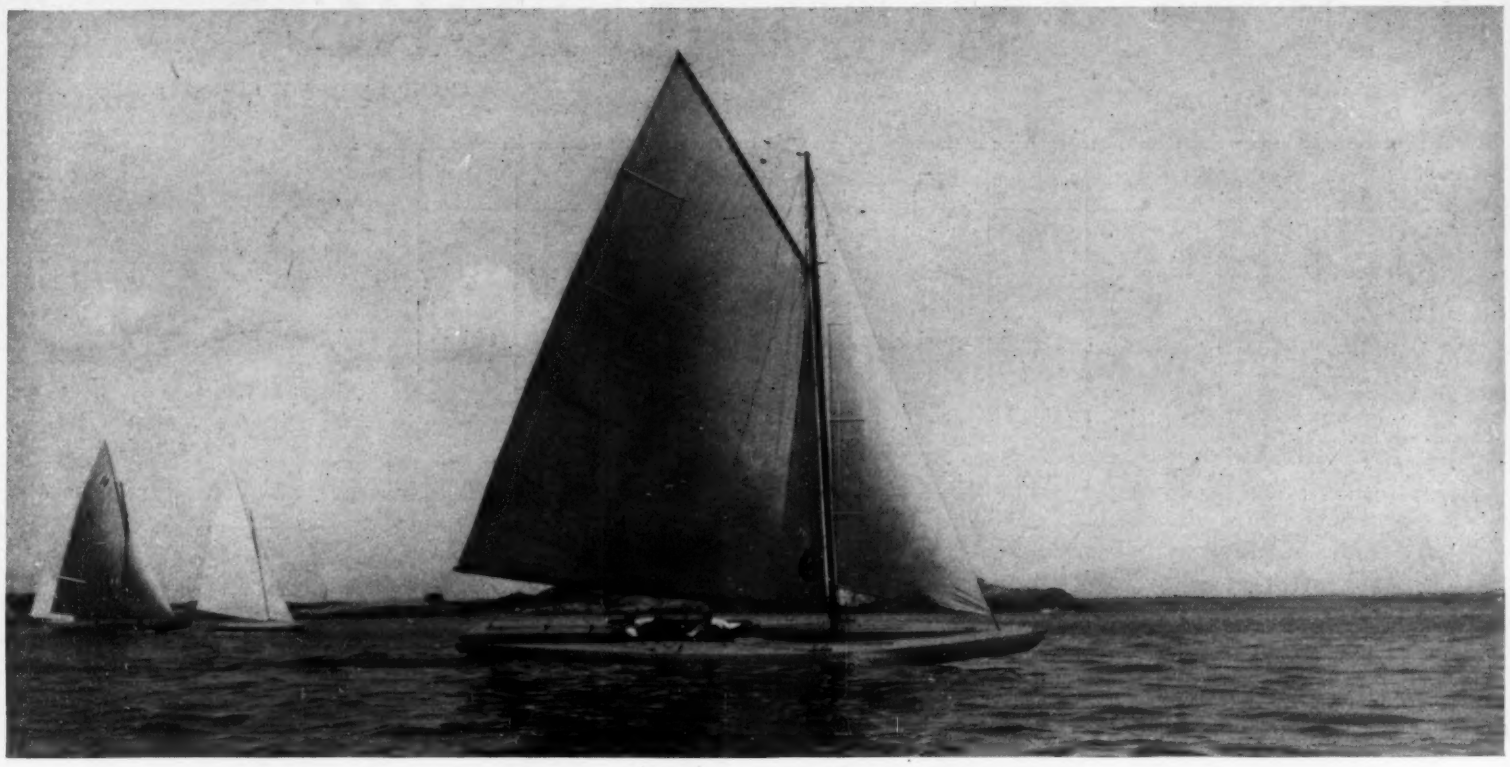
Rowe's Wharf — *Sail Makers* — Boston, Mass.



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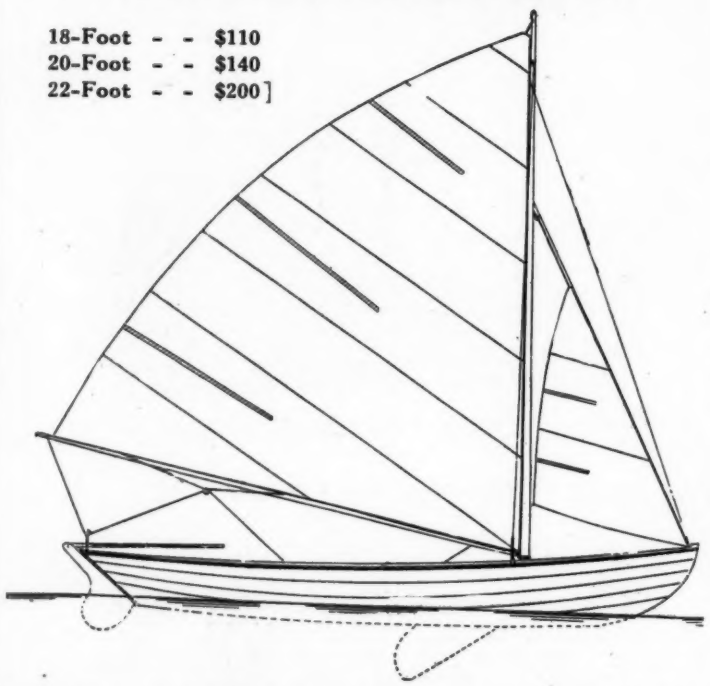

FULL or part decked and coaming sides. Seats and gratings. One pair oars and rowlocks. Cedar or pine planking, galvanized fastenings. First-class spars and sails. Brass mast slide. Rigging fitted complete. Biggest boat value ever offered at the price.

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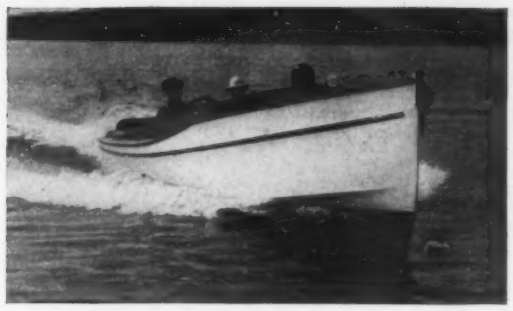
Combine seaworthiness, ability and speed



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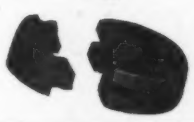

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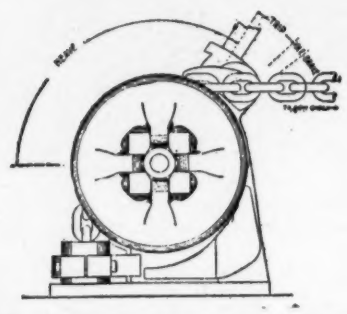

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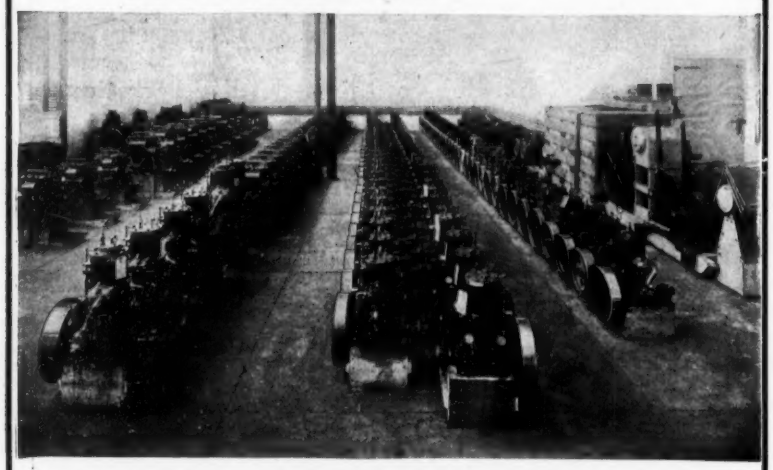

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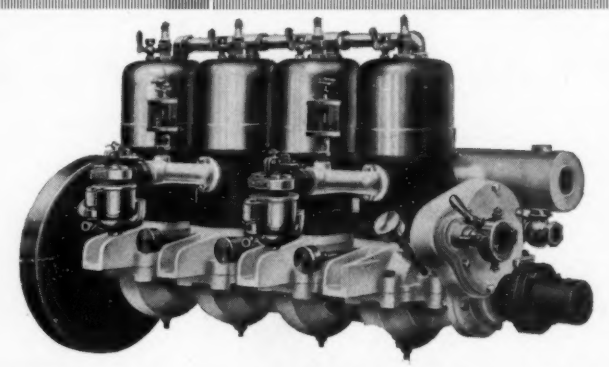

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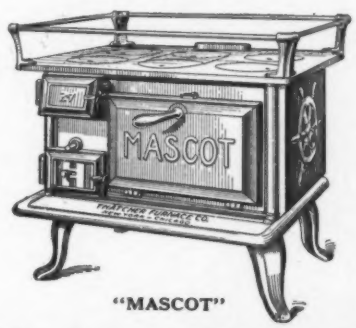

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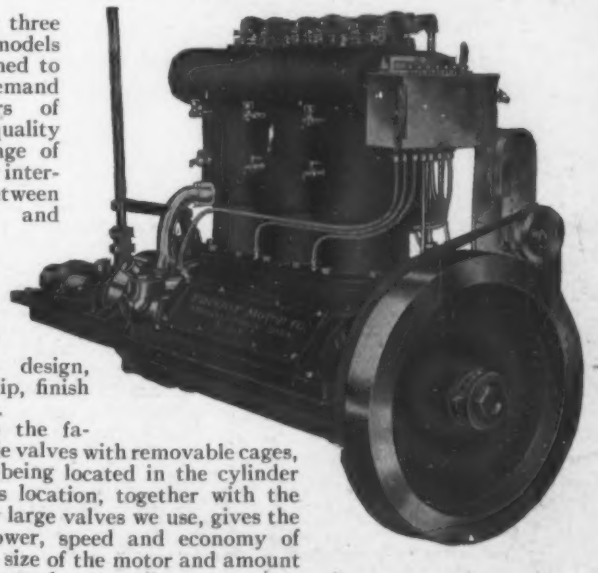

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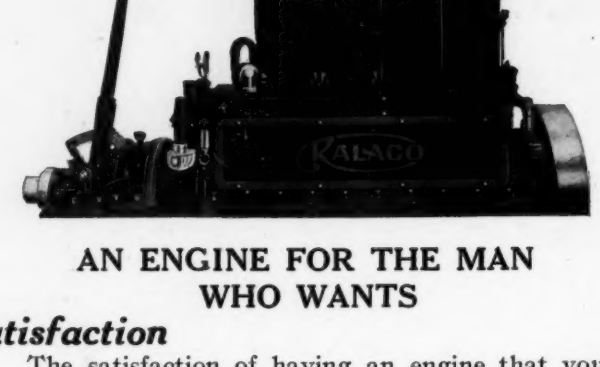

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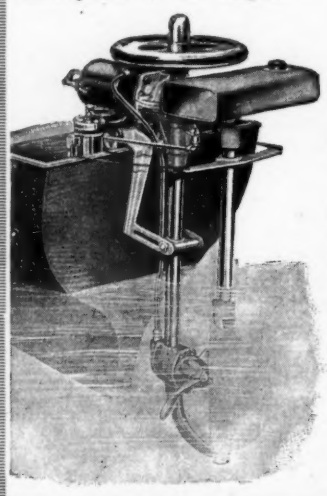

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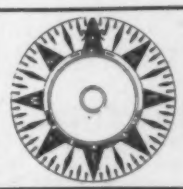

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